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## THE CHARGE OF "HUMAN VIVISECTION" AS PRESENTED IN ANTIVIVISECTION LITERATURE*


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In the literature distributed by the American Antivivisection Society at its exhibit held in Philadelphia in the winter of 1913-1914 are many statements of great interest to all who are working for improvements in public health matters, and of vital importance to every member of a profession which has for its ideal the relief or abolition of suffering caused by disease. In brief, this literature indicates that the recent activities of the antivivisectionists are directed not so much against animal experimentation as against the adoption of new methods of scientific procedures in the practice of medicine.

This is evident in (1) the misrepresentation of the medical profession in connection with procedures which the antivivisectionists term "human vivisection," and (2) the apparent cooperation of the American Antivivisection Society with forces opposed to the improvement of the public health.

### *I. MISREPRESENTATIONS AS TO "HUMAN VIVISECTION"*

In presenting the evidence bearing on the first of these two points I shall utilize only the literature bearing the stamp of the American Antivivisection Society, the New York Antivivisection Society, the British Union for the Abolition of Vivisection (the British antivivisection society) or the Vivisection Investigation League of New York.

Not all the statements presented in these pamphlets can be traced to their sources, for many of them consist of quotations from the daily papers or from the *Journal of Zoophily* and the *Abolitionist*, and frequently even those quoted from medical journals are given without original sources or are based on a summary of the literature or on some other equally indirect account. As these cannot readily be verified and as Dr. Keen[1] has previously covered the references to foreign literature, I have limited my investigation to references to original papers in American medical publications.

#### FIVE ANTIVIVISECTIONIST QUESTIONS

In a pamphlet entitled "Human Vivisection" (bearing the name of the New York Antivivisection Society), five questions are asked:

1. Would you like to have your body inoculated with consumption germs?

In connection with this question is given a newspaper account (New York *Herald*) of a paper read by Professor Detre of the University of Budapest at the International Tuberculosis Congress in Washington in 1908. The pamphlet states that "he had inoculated nine children in Hungary with a serum he had discovered. He urged further demonstration in the interest of science. In consequence nine charity children suffering from incipient tuberculosis in the Children's Hospital at Washington were selected and germs of both bovine and human tuberculosis were injected."

I have investigated this account through Dr. John F. Anderson of Washington, D. C., director of the Hygienic Laboratory of the United States Public Health Service. From Dr. Anderson's account it is seen that in the first place Detre[2] did not use a serum, and in the second place did not inject the germs of tuberculosis. What he really did was to scratch the skin as in vaccination and apply by von Pirquet's method "old tuberculin," that is, a heated fluid in which tubercle bacilli had been grown, but which is entirely freed from such bacilli.

Dr. Anderson's statement follows:

> Detre's experiments at the Children's Hospital were for the purpose of demonstrating the truth of the claim by him that he could differentiate, by means of a von Pirquet reaction, between infection with bovine and human tuberculosis. The children were not actually inoculated, but the experiments were simply a simultaneous von Pirquet, using at different points old tuberculin made from the human strain and from the bovine strain. . . . The children certainly suffered no ill effects therefrom.

The other reference under this first question is to an investigation in Philadelphia in which tuberculin was used as a diagnostic measure. A sentence runs, "More than half the cases *reacted* (which means they were infected with tuberculosis in a modified form) and some suffered very serious complications. . . ." To the medical man the fact that these individuals "reacted"[3] means that they were suffering from tuberculosis before the use of tuberculin; but to the layman

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1. Keen, W. W.: Misstatements on Antivivisection, THE JOURNAL A. M. A., Feb. 23, 1901, p. 500; Misstatements of the Antivivisectionists Again, THE JOURNAL A. M. A., Aug. 10, 1901, p. 400.

2. See Detre's original account, Proc. Sixth Internat. Cong. Tuberc., Section I, Vol. I, Part I, p. 515.

3. The word "reacted" as used in medical practice indicates that the result of the test was positive and showed that the individual was suffering from tuberculosis. Thus, when tuberculin is scratched into the skin (von Pirquet method) or dropped on the surface of the eye (Calmette method) a local reddening occurs. This local reaction does not mean that tuberculosis is produced locally, but merely that tuberculosis is present somewhere in the body. In the absence of tuberculosis no "reaction" occurs.

the implication is that the use of tuberculin brought about *de novo* an infection with "tuberculosis in a modified form." It is not stated that in the preparation of tuberculin all tubercle bacilli are destroyed and that therefore it cannot cause tuberculosis; on the contrary, the impression given is that living bacteria were used.[4]

2. A second question is: Would you like to have your daughter given the most awful and vile disease known? In their answer to this question nothing is presented which bears on medical practice in America.

3. Would you like your son to be inoculated with scarlet fever or poisonous pus? The reference here is to Dr. J. W. Stickler of Orange, N. J., who is charged with inoculating a little girl of 4 and a boy of 8 years with foot-and-mouth disease and with exposing these children after recovery from foot-and-mouth disease to the infection of scarlet fever. I have examined Dr. Stickler's original report[5] and find that the statement of fact is correct.

4. Would you like to have cancer grafted into your well breast so that it took root there? In their answer to this question, as in the second, no American literature is cited.

5. Would you, a decent woman, after the anguish of childbirth, like to be inoculated by the hospital doctor with loathsome disease, and put with the degraded women suffering these diseases? This question, again, is not supported by reference to American literature. It is, however, as are also the second and fourth questions, put in such a way by an American society as to suggest that the procedures indicated are constant occurrences in American hospitals.

In connection with the second, fourth and fifth questions, no support of the implications is offered, and the data presented in connection with the first question, concerning inoculation with tubercle bacilli, has no basis in fact. In connection with the third only is there an adequate basis in American medical literature, and even in this the question gives a false impression, for the children were exposed to, not inoculated with, scarlet fever. They were, however, subjected to inoculation with material from the vesicles of foot-and-mouth disease. From Dr. Stickler's description it is not clear that he reproduced the disease. Nevertheless it is difficult to excuse such procedures. As the result of his clinical experience Dr. Stickler believed that foot-and-mouth disease protected against scarlet fever, and in an attempt to prove this he made the experiments described. In this his procedure was not different from that of Jenner in connection with cow-pox and smallpox. But our knowledge of the infectious diseases in 1887 justified methods other than those of Jenner. I doubt whether to-day such observations as those of Stickler would receive the support of any reputable physician. Certainly these isolated observations of twenty-seven years ago cannot be taken as a criterion of what would be done to-day in the light of our wider knowledge.

### THE ATROPIN-MORPHIN INVESTIGATION

Aside from the matter covered by these five questions, the pamphlet gives three other descriptions of so-called "human vivisection" in this country. One is of observations in a "United States Army Hospital" on the antagonistic action of atropin and morphin. These, it is stated, were made on soldiers, and the criminal character of the procedure lies apparently in the fact, as quoted from the original, that "in no instance were they allowed to know what agents were used, or what effects were expected." The investigation in question is that of Drs. S. Weir Mitchell, William W. Keen and George R. Morehouse,[6] which had for its object the relief of pain in "those terrible cases of neuralgia which, in some shape, are apt to follow as a consequence of neural injuries." These nerve-injuries, it must be understood, were those following gunshot and other wounds of warfare. After trying many drugs it was found that morphin alone in many instances seemed able "to overcome the anguish of certain forms of neuralgic distress." But, although morphin gave relief from the "agony" and "anguish" of these nerve-wounds, it had certain inconveniences, and these, in view of the necessity of administering to some patients as many as from twenty to thirty hypodermic injections a day, became a serious matter. It was in an attempt to overcome them that the investigation of the effect of a combination of atropin and morphin was undertaken. As a result of these investigations the use of atropin with morphin has become a commonplace of therapeutic procedure, and standard tablets containing these drugs are used all over the world with little thought of the clinical difficulties which led Mitchell, Keen and Morehouse to make their original study. As to the charge of experimentation without the knowledge of the patient, Dr. Keen[7] has elsewhere made the following statement:

> Most of our patients operated on (entirely by hypodermic injections) were sorely in need of relief. A few were convalescents. In all cases we avoided telling them what drug was being used, for every one knows how imagination, fear or other emotion would alter the rate of the pulse or of the breathing. Not one man was injured in the least. Not one ever complained.

This investigation constitutes one of the most important pharmacologic and therapeutic contributions in American medical literature. Many thousands of human beings have been benefited and many lives saved through the knowledge thus obtained, but to the opponents of medical investigation it is merely an example of "human vivisection."

### OBSERVATIONS OF THYROID EXTRACT IN THE INSANE

Another quotation concerns Dr. Henry J. Berkley of Johns Hopkins Hospital and his observations concerning the effect of preparations of the thyroid gland on insane patients. He is quoted as saying in regard to the thyroid preparation that "when its administration is pushed even to a moderate degree it almost invariably results in death," and that "two patients became frenzied and of these one died before the excitement had subsided." In the opening paragraph of his paper Berkley[8] reviews the current views concerning the clinical use of thyroid extract, and it is in the second paragraph, where he refers to both man and animals, that one of the foregoing quotations occurs, that is, that

4. For a more complete account of these misrepresentations, see the discussion of tuberculin, later.

5. Stickler: Med. Rec., New York, Dec. 10, 1887.

6. Mitchell, S. Weir; Keen, W. W., and Morehouse, George R.: On the Antagonism of Atropia and Morphia, Founded on Observations and Experiments made at the United States Army Hospital for Injuries and Diseases of the Nervous System. Am. Jour. Med. Sc., 1865, L, 67.

7. Keen, W. W.: The Influence of Vivisection on Character, A.M.A. Defense of Research Pamphlet XXIV, 1912.

8. Berkley, Henry J.: Studies on the Lesions Induced by the Action of Certain Poisons on the Cortical Nerve-Cells. VII. Poisoning with Preparations of the Thyroid Gland, Bull. Johns Hopkins Hosp., July, 1897.

"when this administration is pushed even to a moderate degree death is almost invariably the result." This is a general statement based on the literature which has accumulated in connection with the use of thyroid extracts and covers not only clinical but also experimental work on animals. It is not, as is implied in the antivivisection pamphlet, a conclusion based on Dr. Berkley's work.

In connection with the second statement, "Two patients became frenzied, and of these one died before the excitement subsided," the pamphlet does not give the rest of the sentence, "the immediate cause of the exitus being an acute disseminated tuberculosis"; nor does it state that the death occurred seven weeks after thyroid treatment had been discontinued. Furthermore, it does not state that the frenzy may have been a manifestation of mental derangement and not of the action of the thyroid preparation.

Both of these quotations are excellent examples of the way the opponents of medical research misrepresent medical literature. It is true that Dr. Berkley's treatment was carried out on insane patients, but he definitely states that the initial treatment was 5 grains daily for three days, then after a certain tolerance had been established 10 grains, and unless the symptoms induced became grave, the dose was increased to 15 grains daily. There is every evidence that in order to obtain information concerning the value of this treatment, as well as its dangers, he used every precaution possible. That many of the patients improved and that two were sent home on this account is not stated by those who quote him. That Dr. Berkley should point out that the treatment may have its dangers does not make it human vivisection. Thyroid gland has been and still is used in medical treatment—and the doses used to-day are as large as or even larger than those administered by Dr. Berkley. Moreover, it may be pointed out that Dr. W. W. Keen called attention to these errors of statement in 1901, as did also Dr. W. B. Cannon in 1911. They have, however, never been corrected. Indeed, this ancient slander of Dr. Berkley has, without the slightest regard for truthful statement or sense of fair play, been repeated within the last few months. It is this disregard of all sense of fairness and decency in connection with the use of Dr. Berkley's report that has opened the eyes of many fair-minded persons to the fact that antivivisection literature is largely a literature of falsehood and misrepresentation.

Only three other American references are given in this pamphlet. One of these, referring to lumbar puncture, I shall discuss later. Of the other two, one is a proposition by the vice-president of a state board of health that the state board of pardons grant the privilege of inoculating convicted criminals with the germs of tuberculosis, and the other tells of a paper read by a physician in Illinois in which the suggestion was made that criminals condemned to capital punishment be turned over to the experimental physiologist.

Neither of these statements need be taken seriously; but even if they do represent the opinion of a few physicians, they differ in no way from the suggestion of one of our local antivivisection leaders (Caroline Earle White), who suggests that in India the persons condemned to death as the result of snake-bite be used for experimental purposes. "Here is an opportunity," writes Mrs. White, "such as is not often offered for experimenting upon human beings, since as they would invariably die from the snake bite, there can be no objection to trying upon them every variety of antidote that can be discovered." After all, this suggestion by an antivivisectionist is not very different from the two concerning criminals.

### MISREPRESENTATION OF LUMBAR PUNCTURE

Much attention is given by the antivivisection societies at present to lumbar puncture and the serum treatment of meningitis as forms of "human vivisection." This term is one which is very appropriate for any surgical operation on man, but it is difficult to understand how it can be applied to the various diagnostic procedures or curative inoculations, which have developed recently, from which modern medicine has derived so many benefits and on which it bases its hope of future control of the infectious diseases. In the exhibit of the American Antivivisection Society is a picture[9] showing a nurse and (presumably) a physician standing one on each side of a table on which a child lies. The physician is apparently about to perform the simple procedure known as lumbar puncture, that is, to remove for purposes of diagnosis and treatment a small amount of fluid from the spinal canal. Of the fact that this is the present-day routine procedure in all cases of evident or suspected meningitis, no mention is made. That on lumbar puncture depends both the diagnosis and the treatment of meningitis is not even suggested. Thus a humane and life-saving procedure is presented to the thoughtless public as a form of so-called human vivisection.

In the pamphlet of the New York society, previously mentioned, is the oft-quoted statement that "Dr. A. H. Wentworth, Senior Assistant Physician to The Infants' Hospital, Boston, made forty-five vivisections tapping the spinal canals of children, many of whom died." It has been pointed out time and time again that forty-five punctures were made in twenty-seven living and three dead children, and that of the twenty-seven, fourteen died, not at the time or as the result of the puncture, but, as the necropsies showed, and as is stated in Wentworth's paper, from which the New York Society quotes, of definite morbid processes. Dr. W. W. Keen and Dr. W. B. Cannon have called the attention of the antivivisectionists to their unjust and misleading statements concerning these cases, and although one of the members of the American Antivivisection Society has acknowledged that she "unconsciously exaggerated"—she had stated that "every one" of the children died—the story is still preserved in a form which magnifies the number of children and gives the impression that lumbar puncture was the cause of death. And this is done despite the fact that lumbar puncture is now accepted as one of the most important procedures in the diagnosis of acute and chronic cerebrospinal diseases, is essential in the treatment of epidemic cerebrospinal meningitis, is a constant procedure in surgery when spinal anesthesia is desired, and is frequently employed as a method of diagnosis when traumatic injuries of the spine exist.

### MISLEADING STATEMENTS AS TO SERUM TREATMENT OF MENINGITIS

In connection with the serum treatment of meningitis a most misleading pamphlet is put out by the American Antivivisection Society. It contains the following:

9. The pamphlet reproducing this picture is labeled "Human Material for Scientific Research," and below the picture are the words "Human Vivisection."

We are indebted to the Vivisection Investigation League of New York for the following refutation of Dr. Flexner's claims:

Dr. Flexner of the Rockefeller Institute says of cerebrospinal meningitis that "where 75 per cent. died, now 75 per cent. recover." The New York City Health Department, in its weekly report, says that there were in Greater New York:

| | Cases | Deaths | Case Fatalities Per Cent. |
|---|---|---|---|
| 1905 ..... | 2,670 | 2,025 | 75.8 |
| 1906 ..... | 980 | 813 | 82.9 |
| 1907 ..... | 795 | 652 | 82.1 |
| 1908 ..... | 396 | 359 | 90.6 |
| 1909 ..... | 339 | 330 | 97.3 |

In Greater New York, 24 deaths, January, 1910. The last annual report, 1908, of the New York City Health Department says that "the endemic level as it was previous to the outbreak of 1904 has at last been reached, the death-rate per 1,000 being 0.07 during 1908, which is exactly the same as the death-rate from 1900 to 1903. . . . The disease was apparently more fatal during 1908 than the year before. . . . *The antimeningitis serum was first used in April, 1907.*" [Italics in pamphlet.]

This statement and table give the impression that all the cases included since 1906 in the New York report were cases of epidemic meningitis, and that in all the Flexner serum was used. As a matter of fact the serum was not in general use; but on account of the small amounts prepared in the early period of its clinical application, it was distributed to physicians only on request. Of the cases listed by the health department a comparatively small number received this specific treatment. It is very evident, therefore, that no opinion concerning the efficacy of the serum can be based on the figures of the health department. The average mortality for the 2,510 cases in 1906-1909 as given by the health department is 88.2 per cent.; but in the report (1909) of the first collection of 712 cases[10] actually treated with serum after bacteriologic examination, the mortality was only 31.4 per cent., and in the recent report of 1,294 cases[11] occurring in all parts of the world, the mortality after serum treatment was 30.9 per cent. Moreover, it was shown that when the serum was given on the first to the third days, the mortality was only 18.1 per cent. The value of the specific serum can be discussed fairly only in the light of the later figures. The absurdity of the Vivisection Investigating League's method of juggling statistics is so self-evident that one wonders it should be attempted. It would be as fair to base the mortality following the surgical treatment of appendicitis on the total deaths from appendicitis.

Many other statements are also misleading, as that which states that meningitis "cannot be contagious, as it is merely a possible complication of other diseases." That certain forms of meningitis are complications of other diseases is of course true, but by making the statement the pamphlet implies that epidemic meningitis due to a specific cause does not exist. But more misleading, in view of the remarks on the lack of efficacy of the serum, are the following:

> At this time of year there prevail in many parts of Europe, as of America, epidemics of eruptive fevers such as measles, scarlet fever, influenza, etc., all of a light form.
>
> There were, therefore, selected from among these cases for experimental purposes those which, as they presented certain meningeal disturbances as well as the usual symptoms of measles or of scarlet fever, seemed to justify the title of cerebrospinal meningitis, and they were then inoculated.

To those who have used the serum the falsity of these statements is at once evident when it is recalled that the serum is used only when the meningococcus is found by lumbar puncture, and that when other organisms are found the serum is not used. In this connection may be presented the statement of Dr. Dunn[12] of the Children's Hospital, Boston:

> My personal experience may be cited to illustrate the value, up to this time, of the general health reports on meningitis. Outside my regular hospital services, I have been called on to administer the antimeningitis serum in 142 consecutive cases of meningitis which were believed by the attending physicians to be examples of the epidemic disease. On performing lumbar puncture and making bacteriologic examinations, I found that only sixty were cases of epidemic meningitis, while sixty more were cases of tuberculosis, twelve of pneumococcus, six of streptococcus and four of influenzal meningitis. Among the sixty cases of epidemic meningitis in which I administered the serum, there were forty-five recoveries, equaling 75 per cent., while of the eighty-two miscellaneous cases all patients died but one. This experience is by no means unique, but is rather the rule. It is quite certain that all these cases would, under ordinary conditions, have been reported, assuming meningitis to be a generally notifiable disease, as epidemic meningitis; and under these circumstances and in spite of the serum treatment, the records would have shown a mortality of 67.6 per cent. Instead of this the mortality from all the forms together, except the epidemic, should properly have been given at approximately 100 per cent., and of the epidemic disease at 25 per cent.

Other evidence of the same nature is at hand as the result of a special investigation by the New York City Department of Health. July 1, 1910, Drs. Sophian, DuBois and Neal[13] undertook under Dr. Park's direction in the laboratory of the city department of health the study and treatment of meningitis in connection with the preparation and standardization of antimeningitis serum. They were notified whenever a case was reported and communicated at once with the physician in charge, usually making an appointment with him to see the case. The accompanying table shows the result of their study of 180 cases.

Of the first group clinically considered as epidemic meningitis, only about a third, and of the second group, classified broadly as meningitis, only one-ninth could have received the slightest benefit from the specific serum. In the third and fourth groups the serum obviously would not be used. Still it is on the death-rate in the total number of cases thus variously reported that, without regard to the question of exact diagnosis and with absolute disregard of whether or not the specific serum was used, the antivivisectionists would base their claim that this serum is of no value.

Again, in contrast with the New York Society's point of view, is that of Dr. Thomas Morgan Rotch[14] of the Children's Hospital, Boston. During eight years Dr. Rotch had treated meningitis in various ways with a mortality varying from 60 to 80 per cent.; but in the first year (Nov. 1, 1907 to Nov. 1, 1908) after he began the use of the Flexner serum he treated 74 cases, with a decrease in mortality from 80 to 19 per cent.

10. Flexner, Simon: The Present Status of the Serum Therapy of Epidemic Cerebrospinal Meningitis, THE JOURNAL A. M. A., Oct. 30, 1909, p. 1443.

11. Flexner, Simon: The Results of the Serum Treatment in Thirteen Hundred Cases of Epidemic Meningitis, Jour. Exper. Med., 1913, xvii, 553.

12. Dunn, Charles Hunter: Animal Experimentation in Relation to Epidemic Cerebrospinal Meningitis, A. M. A. Defense of Research pamphlet XXI.

13. Sophian, DuBois and Neal: Studies on Meningitis during 1911, Collected Studies from the Research Laboratory, Department of Health, City of New York, 1911, vi, 15.

14. Rotch, Thomas Morgan: Abstract of Discussion on article by Flexner, THE JOURNAL A. M. A., Oct. 30, 1909, p. 1444.

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In view of such results the average person of humane instincts wonders whether the money of the Vivisection Investigating League of New York might not be better spent in educating the public concerning the life-saving power of such treatment—and indeed in financing the manufacture and distribution of this serum so that it could be used by every physician in the earliest stages of epidemic meningitis.

STUDY OF 180 CASES OF MENINGITIS

| Clinical Diagnoses Reported by Attending Physician | Final Diagnosis Established by Combined Clinical and Laboratory Examination |
|---|---|
| Epidemic meningitis, 71 cases | Epidemic meningitis ..... 27<br>Tuberculous meningitis..... 17<br>Ac. suppurative meningitis due to:<br>Pneumococcus ..... 4<br>Streptococcus ..... 7<br>Streptococcus mucosus capsulatus ..... 1<br>Influenza ..... 1<br>Unidentified Gram coccus (no growth) ..... 1<br>Enteritis ..... 1<br>Bronchopneumonia ..... 2<br>Cerebral endarteritis ..... 1<br>Intestinal intoxication ..... 2<br>Delirium tremens ..... 1<br>Gastro-intestinal acidosis... 1<br>Measles ..... 1<br>Simple chro. internal hydrocephalus ..... 1<br>No meningitis (undetermined diagnosis) ..... 20 |
| Meningitis unclassified, 74 cases | Epidemic meningitis ..... 8<br>Tuberculous meningitis..... 10<br>Poliomyelitis or polioencephalitis ..... 13<br>Enteritis ..... 3<br>Bronchopneumonia ..... 11<br>Lobar pneumonia ..... 4<br>Hysteria ..... 2<br>Purpura hemorrhagica..... 1<br>Intestinal intoxication .... 2<br>Cerebrospinal lues ..... 1<br>Fractured skull ..... 1<br>Spastic paraplegia ..... 1 |
| Tuberculous meningitis, 28 cases | Tuberculous meningitis .... 23<br>Epidemic meningitis ..... 1<br>Streptococcus meningitis ..... 2<br>Undetermined diagnosis, but no tuberculous meningitis 2 |
| Poliomyelitis or polioencephalitis, 7 cases | Poliomyelitis or polioencephalitis ..... 6<br>Epidemic meningitis ..... 1 |

CRITICISMS OF THE USE OF TUBERCULIN

Another pamphlet of the New York Antivivisection Society with the heading "Vivisectors Clamor for Human Beings to Vivisect" refers to the work of Dr. L. Emmett Holt, at the Babies' Hospital, New York. Sentences are quoted of Holt's study of the various methods of applying the tuberculin test in the diagnosis of tuberculosis. It is difficult to see how these valuable and constantly used clinical tests can be used to support the claim of human vivisection. Only by misrepresentation and by misinterpretation can they be so used. Let me quote from the pamphlet two paragraphs, referring to Dr. Holt's work.

> The ophthalmic test was made 615 times; the skin test of von Pirquet was employed 217 times, also on non-tuberculous and dying babies. As though this useless and cruel torture of ailing children was not sufficient, the puncture reaction was practiced on 130 cases, the result of which was to produce a high fever.
>
> Altogether there were over 1,000 tests made on hundreds of little, helpless children, who may suffer from these injections during their entire lives, yet Dr. Holt is forced to this humiliating admission: "It will be seen that some failures and some unexplained reactions occurred with all of the tests. The results with any test cannot, therefore, be regarded as conclusive."

By writing into the text what they wish to prove they imply that these tests are fraught with danger and that the results of such clinical studies are of no value.

An examination of Dr. Holt's paper[15] shows that he does say that "the results with any test cannot, therefore, be regarded as conclusive," but the rest of the sentence, not quoted in the antivivisectionist pamphlet goes on "though a positive reaction creates a very strong possibility that tuberculosis is present. This is increased if the result is confirmed by other tests." In another place Holt says, "While of the greatest assistance in diagnosis, the various tests are always to be taken in connection with the general symptom and the physical signs," and again, "Routine tests proved of considerable value in revealing cases of tuberculosis not hitherto suspected." Referring to the eye test, Dr. Holt says, " . . . in no case was the test followed by any unpleasant results."

Another paper on the use of tuberculin, that by Drs. Hamill, Carpenter and Cope,[16] has likewise been used freely by the various antivivisection societies. References to it appear in three of the pamphlets of the American and in two of the New York Antivivisection Society. In two of the pamphlets of the former society colored pictures of the eye showing the reaction are presented. Two of these pamphlets have the title "Human Vivisection," the third, "Vivisectors Clamor for Human Beings to Vivisect," the fourth, "Tuberculin Tests on Human Beings," and the fifth has the full title of the paper by Hamill, Carpenter and Cope. In one pamphlet occurs the subheading "Experiments on Babies and Little Children" and in another, "Some Recent Instances of this Deadly Work on a Large Scale Follows."

As so much attention has been given by the antivivisectionists to the tuberculin reaction, I wish to go into detail concerning the observations of Hamill and his associates, and for the benefit of non-medical readers to explain the diagnostic procedure known as the tuberculin test. This depends on the principle that if a fluid in which tubercle bacilli have grown, and which therefore contains the chemical products of their growth, is injected into an animal or person suffering from tuberculosis, a transient increase of temperature occurs and constitutes the chief sign of a positive reaction; if no tuberculosis exists, no reaction occurs. The method is therefore of great value as a diagnostic test in obscure or doubtful cases of tuberculosis. Not only is it used in recognizing tuberculosis in man, but it is the constantly and generally recognized procedure in determining the presence of tuberculosis in cattle.

The fluid injected is called tuberculin, and as it is sterilized it contains no living bacteria and cannot cause tuberculosis. When the test was first used, the tuberculin was injected beneath the skin with the aid of a hypodermic syringe, and the chief reaction which this method gives, is, as I have stated, an increase in temperature. Later it was found that if the diluted tuberculin was placed on the surface of the eye, there fol-

15. Holt, L. Emmett: A Report on One Thousand Tuberculin Tests in Young Children, Arch. Pediat., 1909, xxvi, 1.
16. Hamill, S. M.; Carpenter, H. C., and Cope, T. A.: A Comparison of the von Pirquet, Calmette and Moro Tuberculin Tests and Their Diagnostic Value, Arch. Int. Med., December, 1908, p. 405.

lowed in tuberculous persons a reddening or congestion of the eye, which might go on to the stage of mild conjunctivitis ("pink eye"). This is known as the Calmette reaction. Still later it was discovered that if the skin was scraped, as in vaccination against small-pox, and the tuberculin applied over such an area, a local reddening—the von Pirquet reaction—could be obtained. There has never been any doubt about the value of the tuberculin reaction. It is one of the most valuable adjuvants in the diagnosis of doubtful tuberculosis. When, however, about six or seven years ago, the medical profession had its choice of three methods of applying the test, it was most important to find out which (1) gave the most constant results, (2) was the simplest to apply, and (3) was accompanied by the fewest disagreeable complications; to determine these points and to establish the best method of procedure was the object of several clinical investigators.[17] The work of Dr. Hamill and his associates constituted one of the earliest of these investigations in this country. Now let us see how this work has been misrepresented. We find the statement "inoculations of tuberculin into children . . . many of the injections being made into the eye." The word "injection" suggests the propulsion of a fluid through a syringe with sufficient force to cause it to enter a tissue or cavity. In the test under consideration the fluid is allowed to drop on the surface of the eye from the ordinary medicine- or eye-dropper. As used, the above-quoted phrase implies that the tuberculin was introduced *into* the substance of the eye and not, as has been explained, dropped on the surface of the eye or inner side of the eyelid.

Another statement is, "More than half the cases reacted (which means they were infected with tuberculosis in a modified form) . . ." The words in parenthesis have no basis in fact. Tuberculin, in that it contains no living bacteria, cannot cause infection, and the reaction which it causes is not "tuberculosis in a modified form." The presence of the reaction merely shows that in the individual tested tuberculosis exists. Lack of knowledge of the principles of bacteriology and immunity may have led the writer of the pamphlet to use this misleading phrase, but as the reaction is clearly explained in the original paper, it appears rather as a deliberate and malicious introduction of false matter. In these various pamphlets it is implied that the investigation was entered on recklessly and without thought of the consequences. In this connection a statement of Dr. Hamill[18] is of interest:

> Before undertaking the work, I went over the available literature and conferred with Dr. ——— to see what information I could get concerning the tests. I knew that ——— had applied the conjunctival test to some sixty cases, and I wanted to know whether he would advise against my undertaking the application of that test to the children in St. Vincent's Home. After warning me against applying it to inflamed eyes or in the cases of children with histories of previous eye trouble, he told me that he thought there was no reason why I should not proceed. I found nothing in the literature at that time that made me feel that there was any impropriety in undertaking the work.

This statement indicates that the investigation was not entered into hurriedly or without expert advice.

In some of these pamphlets it is implied that blindness resulted in some of the cases. For this there is no justification in the paper, for although the investigators state in describing the complications that these "*may* permanently affect the vision and even lead to its complete destruction," there is no evidence that the latter condition resulted. The statement quoted was made for the purpose of emphatically warning physicians against some of the dangers of the test. As a matter of fact, all the eyes cleared up except one in a patient in which a defect of vision of one eye persisted on account of a small corneal scar; in no instance did blindness result.

Although I have been unable to find in any of these pamphlets a statement that these investigations were made without the consent of those in charge of the home, some of the accounts refer to the children as "foundlings, orphans and destitute children," thus implying that they were used without authority. On this point the following statement of Dr. Hamill[18] is of interest:

> I went with Dr. ——— to Sister Marie, the Sister Superior of St. Vincent's Home, and we together explained to her that we wished to apply these tests for the double purpose of determining the incidence of tuberculosis among the cases in St. Vincent's Home and among those being admitted to the home, and at the same time to make a comparative study of the different tests. We were granted permission without any hesitation, and the work was conducted throughout my term of service without the slightest comment on the part of any one. But it was applied only to children in the home at that time. When I returned from my vacation in the autumn I prepared to apply the tests to children who were being admitted to the home, but gave this up after hearing from Dr. ——— that there had been some criticism on the part of the Sisters of the work which had been done.

Again, in referring to an attack made on him by the New York *Herald*, Dr. Hamill continues:

> An interesting sequel to the attack was that Dr. ——— and I were called to the home some months after these publications appeared, to be introduced to the present Sister Superior, who told us that she had sent for me for the specific purpose of telling me how deeply she appreciated what I had done for the home; how intensely she regretted the experiences I had while connected with the home and to assure me that nothing would give her more gratification than to have me reinstated in the institution if opportunity arose. She informed me that she had carefully read the article which I had published, and had seen nothing in it to criticize.

In view of these criticisms of the use of tuberculin by Dr. Holt, Dr. Hamill and others, it is of interest to note that its value as a diagnostic test has been confirmed by federal, state and municipal health authorities, and that it has become one of the most important of modern procedures in medical diagnosis. As to the best method of application there is still some difference of opinion, but the "eye" test has a large group of supporters. Within the last few months Dr. J. Gutman[19] of Brooklyn has stated that the test is safe, very reliable, and absolutely without danger, and serves the purpose as

17. Studies for this purpose, other than those of Holt and of Hamill, Carpenter and Cope, that have been quoted at length by the antivivisectionists are Hamman, L. and Wolman, S.: The Cutaneous and Conjunctival Tuberculin Tests in the Diagnosis of Pulmonary Tuberculosis, Arch. Int. Med., May, 1909, p. 307. Taussig, A. E.: The New Conjunctival Test for Tuberculosis, Interstate Med. Jour., 1908, 551. Fisch, C.: The Present Status of Ophthalmic Diagnosis of Tuberculosis, Interstate Med. Jour., 1908, 533. Many others are quoted more briefly. Practically all these point out the occasional danger of the eye-test and thus support the work of Hamill and his coworkers, who were among the first to sound a note of caution. In this way the antivivisectionist literature unconsciously offers a justification for Hamill's studies.

18. Personal letter.

19. Gutman, J.: Arch. Diagnosis, 1913, vi, No. 4.

well as, if not better than, the skin reactions. He cautions against its use when any eye-trouble is present, but adds that he does not know of a single case in which the test has proved dangerous.

### DISTORTED VIEW OF A CLINICAL TEST

The same pamphlet contains also an account of Noguchi's[20] clinical investigation of his luetin test for syphilis, which ends with the statement:

> To the shame of the profession it must be added that physicians connected with twenty-two hospitals in New York City and vicinity contributed their patients to Noguchi for these merciless and unscrupulous experiments.
>
> This base betrayal, on the part of hospital physicians, of a sacred trust would be impossible to any one other than the vivisector and his upholders.

Here again it is difficult to understand how a well-recognized clinical test which aids in the diagnosis of obscure cases of syphilis and which causes no reaction in the non-syphilitic can be used as an example of human vivisection.

Luetin is prepared from the micro-organism—*Spirochaeta pallida*—which causes syphilis. A suspension of this organism is so treated as to cause disintegration of the parasite. The material is then heated so as to ensure the death of all living material in the fluid. Phenol (carbolic acid) is added to prevent contamination, and the fluid—a sterile mixture—is injected into the skin, much in the manner employed in the tuberculin test. It is entirely devoid of living micro-organisms, as was shown by Noguchi, first on rabbits and monkeys, and later by applying it to his own skin and the skin of several physicians who volunteered for that purpose. The reaction in the syphilitic is a slight erythema (or reddening) which may become papular, or occasionally pustular; in the non-syphilitic, *no reaction occurs* and the procedure in such has no more effect than the injection of distilled water would have.

It has been pointed out repeatedly by Dr. Flexner and others that "the application of this test could by no possibility give syphilis to the patient, and, on the other hand, the test has now been used in hundreds of cases all over the world and has proved itself to be of the greatest value in diagnosing, and consequently in treating cases of a dangerous and obscure type." Despite such explanations the misrepresentation of every-day procedures in medicine is continued[21] by these societies in the effort to support a propaganda of cruelty and ignorance.

Of new societies there is no end, but the presence in the community of individuals who will publish statements such as I have quoted suggests the need of a "Society for the Abatement of Preventable Ignorance."

### OBSERVATIONS IN CEREBRAL LOCALIZATION

Another pamphlet entitled "Human Vivisection" put out by the American Antivivisection Society quotes several Americans concerning experimentation on animals in its relation to man, but gives no American observations except the Boston cases of lumbar puncture, which I have already discussed, and the study made in Cincinnati, in 1874, on cerebral localization. The latter is described as "one of the most horrible cases of human vivisection in this country, and one, too, which was terminated by the death of the victim." These observations were published under the title "Experimental Investigations into the Functions of the Human Brain."[22] A patient with a loss of a portion of the bony skull was the subject of a study of the reactions following the insertion into the brain of insulated needle electrodes. The Antivivisection Society's report states that "an eroding ulcer had appeared which gradually laid bare the brain substance." It does not state, however, that this eroding ulcer was cancer (epithelioma) of thirteen months' duration, that from the excavation pus exuded, indicating a general suppurative inflammation of the dura, and possibly, also, of the finer meninges and the brain, and that at necropsy a thrombosis of the superior longitudinal sinus was found. It is distinctly stated in the original that "as portions of brain substance have been lost by injury or by the surgeon's knife, and the brain has been deeply penetrated by incisions made for the escape of pus, it was supposed that fine needles could be introduced without material injury to the cerebral matter." There is no statement concerning the consent of the patient, but on the other hand there is no evidence that she objected or was coerced or intimidated in any way. In this connection, it is of interest that in the account of Observation 3 (testing of the posterior lobes) occurs the comment, "Notwithstanding the very evident pain from which she suffered, she smiled as if much amused." As the brain is an insensitive organ, the pain mentioned could not have been felt in it as the result of introducing needle electrodes; whatever pain was experienced must have been due to the peripheral effect of the stimulation. That "she smiled as if amused" shows that she did not object, that the pain was not severe and that no harm was done to her.

It is difficult, in view of the incomplete account, to pass judgment on this experience. The case was hopeless from the point of view of treatment—an extensive growth of cancer, a left-sided meningitis, with suppurating sinuses of the brain substance, indicated an early fatal termination.

If the patient under these circumstances consented to the observations described, it would appear to be a matter between herself and the physician making the observations. The symptoms which were present during the three days following the last (fourth) observation would appear to be due to the spontaneous lesions in the brain and not to the experimental procedure. This opinion is confirmed by the necropsy findings.

It is not an uncommon procedure in neurologic surgery to stimulate after operation, in conscious patients, certain areas of the brain. This procedure is a familiar one to all neurologists and it is therefore difficult to understand why so much has been made of these early observations in Cincinnati.

### VAGARIES TAKEN SERIOUSLY

Another leaflet of the American Antivivisection Society contains the following:

> I made the experiments on seventeen people between the ages of 15 and 30 years, but in no instance could a case of consumption, scarlet fever or small-pox be produced. These experiments were made in the following manner: I sprayed the poisons of diphtheria, small-pox, scarlet fever or con-

20. Noguchi, H.: A Cutaneous Reaction in Syphilis, Jour. Exper. Med., 1911, xiv, 557; Experimental Research in Syphilis, THE JOURNAL A. M. A., April 20, 1912, p. 1164.

21. In connection with the luetin test, quotations are made also from articles by R. B. H. Gradwohl: Med. Rec., New York, 1912, lxxxi, 973; J. M. Wolfsohn: Bull. Johns Hopkins Hosp., 1912, xxiii, 223 and M. Cohen, Arch. Ophth., 1912, xli, 8.

22. Am. Jour. Med. Sc., 1874, lxvii, 305.

sumption into the throat or nose or had them breathe them into the lungs, repeating the experiment in most cases every one or two weeks for months, with the result that no disease could be developed. Of course, I could not let the patients know what I was doing. I was supposed to be treating them for catarrh of the nose or throat.

This statement is credited to *Life*, the New York *Herald* and the *Medical Brief* (April, 1906).

I have examined the original article[23] in the *Medical Brief* and find that the quotation is correct; but the paper in question is obviously written by a crank and it is not one from which a wise man would quote, though *Life* might have quoted more freely to the great amusement of its readers. For example, in the fourth chapter of this little effusion of four and a half pages, the writer pays his respects to the Darwinian theory in the following words:

I will explain one of these wonders in natural phenomena that is a stunner:

Take the human seed germs (spermatozoa), put them upon a plate, first spreading some alkaline nourishing substance upon the plate; for instance, a little soap, place the plate in a room of proper temperature, and in sixteen to twenty-four hours, swarms of ants will be running about. In other words, these living human germs placed under this different condition other than the mother soil, developed into ants. These little fellows can be watched and be seen to gradually develop, and start off on the run.

In Chapter II, this pseudoscientist thus disposes of the physiology of the circulation:

These experiments positively refute the assumption made by physiologists that the heart and muscular contraction of the arteries cause the blood to circulate in the body. They also prove that the circulation of the blood is governed by this law of attraction affinity, electricity, or call it what you will.

It is from Chapter III, entitled "No Impurities, Poisons or Germs can be taken into the Blood or System from Our Surroundings," that *Life*, the *Herald* and others have quoted. Immediately following the paragraph they quote, is the following explanation:

I want here to call attention to the fact that I did not make cultures of these poisons and germs, which is now considered so scientific, but in reality is unscientific and misleading. I used the genuine stuff, directly from the patients, sometimes carrying quantities of small-pox and scarlet-fever scales in my pocket for months.

That this individual actually lived in this twentieth century and said he did many of the things he describes is undoubtedly true, for it is known that he went to one of our larger mid-Western cities and asserted that he had smeared himself with small-pox pus. Although he might have been held, through a liberal interpretation of the law, on the charge of carrying concealed deadly weapons, he was instead sent to the isolation hospital, where he and his clothes were disinfected and where he was kept isolated for a period of two weeks.

His books ("As It Is" and "Fads in the Practice of Medicine") show this individual to be without medical training in the modern sense. One of his letters to the commissioner of health of Milwaukee, as quoted by Dr. Forbes,[24] is illuminating as to his standing with medical editors. He writes:

I will admit that the *Medical Journal* would be the proper place for the discussion of these subjects, but I wish to inform you that for nearly six years that privilege has been denied me by nearly forty publications in the United States.

Some idea of his success as a practitioner may be gained from the fact that in a period of eight or nine years he tried to earn a living in four or five different places.[25] It is said that it was on account of his lack of practice and therefore his inability to do harm that he was not prosecuted for malpractice.

I have gone into this account somewhat in detail in order to show the non-science and indeed the utter nonsense which the antivivisectionists utilize in their attempt to oppose the progress of modern medicine. The individual under consideration may have attempted to introduce the materials he mentions into the respiratory passages of his patients, but to quote the acts of such a person, of unscientific training and apparently of unsound mind, as representative of the general practitioner, is as outrageous as were the stated inoculations.

### WORKS OF KNOWLES AND HALES

Another account in a pamphlet of the American Antivivisection Society is that which refers to Dr. Knowles' observation on molluscum contagiosum.[26] In the course of an epidemic of this disease at St. Vincent's Home (Philadelphia) during the year 1908, fifty-nine children were affected. In the hope of obtaining some knowledge concerning the causation and development of the disease, facts essential to its radical control, attempts were made to reproduce the disease in two children by rubbing the contents of the local lesion on an abraded surface. Molluscum contagiosum is a simple local condition in no way serious in its manifestations or consequences. Several physicians, among others, Retzius and Haab, have reproduced the disease on their own bodies. That Dr. Knowles should desire to repeat these experiments is, under the circumstances, hardly a matter for severe criticism.

The pamphlet of the British Union ("Experiments on Human Beings," by R. E. Dudgeon, M.D.) contains no reference to American and indeed none to English hospitals or physicians. Lawson Tait is quoted, and reference is made to Rev. Stephen Hales as "the originator of the modern practice of vivisection"; and it is recalled that this clergyman published a work on "Hemostatics," based on his observations on blood-pressure in the horse and other large animals. The fact is ignored that to-day every physician who practices accuracy of observation uses instruments which in their development go back to Hales' observations. It is cited that on the basis of these observations Hales obtained the approbation of the Royal Society, and that the society published his observations and made him one of its fellows. The account concludes, "His experiments have been utterly valueless as far as the health or life of human beings is concerned." It is of course possible that apparatus for taking blood-pressure would have been developed in any case, but it cannot be denied that Hales' experiments initiated and hastened this development.

### VAGARIES OF RODERMUND AGAIN

It is of interest that the "Society for the Prevention of Abuse in Animal Experimentation," although it states in its "platform" that it regards "the abolition

23. Rodermund, M. J.: Medical Wonders and Medical Blunders—a Story of Facts, Med. Brief, 1906, xxxiv, 279.
24. See letter of Alexander Forbes, Life, May 26, 1910.
25. Personal letter from a Milwaukee physician.
26. Knowles, F. C.: Molluscum Contagiosum, Report of an Institutional Epidemic of Fifty-Nine Cases, THE JOURNAL A. M. A., Aug. 28, 1909, p. 671.

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of vivisection as disastrous to legitimate scientific research,"[27] makes use of the same unfair and misleading methods as do the antivivisectionists who demand total abolition. It repeats *Life's* quotation about the spraying of the poison of scarlet fever, diphtheria and small-pox into the throats of patients, as do the American, New York and other antivivisection societies, without regard to the other absurd statements elsewhere in Rodermund's paper, which, if mentioned, would nullify, as they must realize, the importance of the part actually quoted. Their plea,[28] "We, the friends of vivisection, who desire to see it placed in the keeping of the most competent men, who are determined to take it altogether out of the hands of charlatans and tyros, have a right to ask a reconsideration on the part of the medical profession," is hardly convincing in view of the fact that they quote in support of their position a man discredited by the medical profession itself. This society, like the frankly antivivisection societies, makes much of what it considers to be experimentation on patients in hospitals. In a circular letter, under date of Jan. 2, 1914, over the names of the president (J. B. Y. Warner) and treasurer (Frederick P. Bellamy), it is stated, in referring to a new method of diagnosis, that "this is the natural sequence of unlimited animal experimentation. *Every physician in large practice knows this to be the fact.*" [Italics in original.]

In this connection, we have the opinion of one of the most prominent of European physicians, Dr. Joseph Bastianelli of Rome. After a prolonged visit to this country, devoted to a study of the methods of teaching and investigation in our hospitals, Dr. Bastianelli gratuitously offers the following:

> Concerning the American hospitals, I am bound to say that every phase of the process of receiving and treating of a patient is characterized by strong sentiment and human sympathy. Patients are held as sacred. Everything is done to help them, regardless of creed and nationality. The hospitals are the best in the world, for rich and poor alike are cordially welcomed.

### *II. COOPERATION OF THE ANTIVIVISECTIONISTS WITH THE ANTIMEDICAL MOVEMENT*

This brings us to one very significant fact in connection with the recent exhibit in Philadelphia—evidence of the apparent cooperation of the antivivisectionist forces with an organization having for its object opposition to the federal control of matters of public health. Among other literature on the tables at the exhibit (Nov. 29 and Dec. 13, 1913) of the American Antivivisection Society were the publications (*Medical Freedom*, i, No. 2, and ii, Nos. 8 and 10) of the National League for Medical Freedom. These state that the object of the league is to "protect the people in one of their most sacred rights, the right of every man to select the practitioner of his choice in the hour of sickness"; but its real object, as is evident elsewhere in its pages, is to oppose the control by the federal government of matters of public health.

This is particularly emphasized in a pamphlet bearing the card of the National League for Medical Freedom, entitled "Evils of a Health Bureau," which attacks the American Medical Association and Senator Owen's bill to establish a national health board.

That there may be no doubt concerning the policy of the National League for Medical Freedom, let me quote from a leading article[29] by a director (William A. Davis) of the league. He says:

> The greatest menace to the freedom of the people of the United States to-day is the activity of that portion of the medical profession which is attempting to establish a national Department of Health, with its chief executive officer a member of the President's cabinet, under the specious plea of advancing the "public health." . . . Its members are asking to establish a medical monopoly whose bands of iron have not been equaled since the dark ages.

In another number[30] Dr. Samuel G. Dixon, the head of the health department of the State of Pennsylvania, because he stated in an address that "compulsion, not persuasion, is the key-note of state medicine," is described as "the head of the paternalistic medical activities of Pennsylvania and a master spirit among the political doctors of the American Medical Association. . . ."

In other words, the league is opposed to government bureaus which might have charge of quarantine, health legislation, the control of water-supplies, sewage-disposal, pure-food regulations, and other problems which would thus have federal regulation and uniform enforcement. No matter what views one may have about states' rights or schools of medical practice, no one, I believe, who has the welfare of his fellow men at heart, desires to oppose regulations which tend to decrease disease in his own community or in that of his neighbor. The opponents of animal experimentation by distributing the literature of the League for Medical Freedom indicate that they are opposed to such humane effort and thus offer added proof of their opposition to the principle that the community at large should benefit by the fruits of medical investigation.[31]

I have gone into these matters in details for two reasons: First, that the medical profession should understand the animus which actuates such attacks, and secondly, that the general public should have a clear statement concerning the misrepresentation on which these attacks are based. "The public should definitely understand that the medical profession wholly repudiates and regards with abhorrence the employment of any procedure whatever which is in any way likely to injure rather than to benefit a patient who has entrusted himself, or who has been entrusted, to a physician's care."[32]

The antivivisectionists charge that in experimental work the final test must be made on man. Of course it must. The object of all medical investigation is the relief of mankind's suffering from disease. After a method has been satisfactorily tested on animals, the final test must be on man, otherwise the preliminary work would have been without purpose. But in these first crucial tests on man the greatest caution is observed and it is usually the investigator himself who submits to the test. This was the case with Noguchi, who has been maligned by the antivivisectionists in

27. Pamphlet of the society.
28. From a pamphlet over the signature, "James H. Ecob" put out by the society.
29. Davis, W. A.: Med. Freedom, ii, No. 10.
30. Med. Freedom, ii, No. 8.
31. It is significant that the *Medical Brief*, from which all the Antivivisection societies and the "Society for the Prevention of Abuse in Animal Experimentation" quote concerning the experiments of Rodermund on the spraying of poisons of scarlet fever, diphtheria, small-pox, etc., is controlled by one Henry R. Strong, who also publishes the *National Druggist*. Both these publications have for years been regarded as mouthpieces of the nostrum interests. The *Medical Brief* does not in any sense represent the views of scientific medical men.
32. The Washington Antivivisection Congress, editorial, THE JOURNAL A. M. A., Dec. 20, 1913, p. 2244.

connection with his luetin test. Before this test was put into general use Noguchi and other physicians who volunteered were subjects of experimentation. So also when salvarsan was first suggested for the treatment of relapsing fever; after tests had been made on dogs the assistants of Alt volunteered to take the injections in order to test the toxicity for man. Not until after this was done was it used on patients with relapsing fever, and of course later in syphilis.

This is the universal rule. As long as the problem at hand offers hope of solution by the use of animals, this procedure is followed. But once it is evident that man himself must be the experimental animal, the scientist volunteer is always ready. When it was evident that the problem of yellow fever could be settled only by the demonstration of the direct transmission of the disease from infected man to healthy man by the bite of the mosquito, Carroll and Lazear and soldier volunteers gave themselves willingly to the test. Lazear succumbed, but to the world was given the means of preventing the scourge of yellow fever. "Died in the service of his country" is the simplest phrasing which any people may use to honor its heroes; but to Lazear, as also to Ricketts, whose fatal illness was due to Mexican typhus which he was investigating, were given the immortal honor of dying in the service of humanity.

So also when in the course of the study of the transmission of malaria by the mosquito, the crucial test became necessary, two members (the younger Manson and Warren) of the staff of the London School of Tropical Medicine were ready to submit to the bite of infected mosquitoes brought from the Roman Campagna for that purpose.

This voluntary service of man is not limited, however, to the acute infectious diseases. It must be remembered that Henry Head's important studies of sensory disturbances due to nerve injury were based in part at least on a purposeful division of a nerve in his own arm, and aside from these major problems there are many minor problems in connection with which the investigator is himself constantly the subject of experimentation. These are instances in which the physician tests on himself a new procedure before he applies it—contrary to the contention of the opponents of medical research—to patients. Within the last two months two different clinical applications of experimental work have been tested thus by physicians in my department, and one of them not without severe results. Moreover, a vast number of experiments in physiologic chemistry and immunology are made with the investigator himself as the experimental animal.

I can recall that when the tuberculin eye-test (ophthalmic reaction) for tuberculosis, for the use of which some Philadelphia physicians have been severely criticized, was first announced, I and the staff of my laboratory (Bender Hygienic Laboratory, Albany, N. Y.), submitted to the test before using it on patients. Of the fourteen men, all physicians, to whom the test was applied, four had a positive reaction, that is, a congested or inflamed eye. These men did not look on this as a hardship, but rather were thankful that this evidence of latent or obscure tuberculosis somewhere in their bodies warned them of the necessity of care and appropriate treatment in preventing its further development.

Three courses are open to the medical profession:

1. To refuse absolutely to try any new drug, new operation or new means of diagnosis, because it would be an "experiment" and an example of "human vivisection."

2. To test new ideas, suggestions and methods at once on man.

3. To make the first tests and experiments on animals and then if found useful and not dangerous to apply them, with every possible safeguard, to the relief of man.

If the first course were followed, all progress would cease and all medical and surgical treatment would become stereotyped. The second involves a moral responsibility which few conscientious physicians would care to assume. The third has a basis in a definite ethical principle. Which would any sensible man or woman choose as a guide to medical progress?

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## AN ECONOMIC VIEW OF VENEREAL INFECTIONS

JAMES PATTERSON, M.D.
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There is no subject of more vital importance than that of venereal infections and means of combating them. We have come to a point where such freedom of discussion is possible as was unthought of a few years ago, and is it not now advisable to add some more definite straightforward action in ridding mankind of these avoidable infections?

The prevalence of the scourge is known in a general way, but it can do no harm to look again at some figures showing approximately the wide-spread more or less hidden conditions. The army hospital reports of the various nations are the most readily available and from them White and Melville[1] have compiled a table (Table 1) showing the incidence of infection per 1,000 men.

TABLE 1.—VENEREAL INFECTION PER THOUSAND MEN

| | Years | Per Cent. |
|---|---|---|
| Germany | 1905-06 | 19.8 |
| France | 1906 | 28.6 |
| Austria | 1907 | 54.2 |
| Russia | 1906 | 62.7 |
| United States | 1907 | 167.8 |
| United Kingdom | 1907 | 68.4 |

Kober[2] gives a somewhat more recent and a more differentiated table (Table 2) also on the basis of 1,000 men.

TABLE 2.—DIFFERENTIATED INFECTIONS PER THOUSAND MEN

| | Year | Syphilis | Chancroid | Gonorrhea | Total |
|---|---|---|---|---|---|
| U. S. Army | 1909 | 30.45 | 30.77 | 135.77 | 196.99 |
| U. S. Navy | 1909 | 26.49 | 28.23 | 105.11 | 159.83 |
| Japanese Navy | 1907 | ..... | ..... | ..... | 139.75 |
| British Navy | 1908 | 37.46 | 17.87 | 67.16 | 122.49 |
| British Army | 1908 | 35.1 | 28.23 | 40.7 | 75.8 |
| Japanese Army | 1907 | 10.1 | 10.4 | 17.1 | 37.6 |
| Prussian Army | 1907 | 4.4 | 2.1 | 12.2 | 18.7 |

These tables show conclusively that the English-speaking people are, in their naval and military organizations at least, much greater sufferers from venereal infections than the other nations.

In civil life there is less accuracy in presenting figures, but Cunningham[3] says that 60 per cent. of men acquire venereal infections some time, 20 per cent. of these are incurred before the twentieth year, 50 per

1. White and Melville: Lancet, London, 1911, ii, 1615.
2. Kober: Tr. Assn Am. Phys., Philadelphia, 1911, xxvi, 155.
3. Cunningham: Boston Med. and Surg. Jour., 1913, lxviii, 77.

cent. before the twenty-fifth year, and 80 per cent. before the thirtieth year. Gerrish[4] estimates that 10 per cent. of the population of New York has syphilis and that 80 per cent. of it is acquired between the ages of 19 and 35 years. Fischer[5] thinks 18 per cent. represents the luetic cases in the United States and he further states that there are 250,000 deaths each year due to venereal infections. Biggs[6] finds that during the year 1912 there were 13,348 cases of syphilis reported, 24,980 cases of gonorrhea, and 4,331 cases of chancroid, a total of 42,659 venereal infections. These were reported by 1,500 of the 8,000 physicians in New York City, and do not include hospital and dispensary figures. His judgment is that there were about 200,000 cases during the year. McMurtrie[7] places on record statistics from seventeen dispensaries and thirteen hospitals for the year 1911. In the former he found 15,781 venereal cases and in the latter 5,380. The 5,380 means 6.33 per cent. of all the cases in the hospitals investigated and that is the more notable because of the very scanty hospital accommodation for such diseases. Morrow,[8] in his reply to Cabot's criticism of the estimates he gave as to the frequency of venereal infection, reiterates his statement that 75 per cent. of adult males acquire gonorrhea at some time, and that from 5 to 10 per cent. acquire syphilis. He bases his figures not only on his own observations, but on the opinion of such men as Neisser and Fournier, and on the statistics found in the clinics and dispensaries of continental Europe. In this connection he calls attention to the unreliable reports furnished by our hospitals because cases of the primary diseases are not admitted, and only in the practically incurable stages are venereal cases given housing under such titles as arthritis, prostatitis or endometritis in gonorrheal patients and general paresis, tabes dorsalis, aneurysm and so forth in specific cases. Again Barrett[9] presents some evidence furnished by the pathologists of Melbourne, Australia, where 30 per cent. of 200 necropsies gave syphilitic findings. Besides that, 5 per cent. of the population within a ten-mile radius from the Melbourne post-office were positive to the Wassermann test. These findings can be multiplied by further reference to the literature, but they are ample to indicate the extent of the scourge.

This subject can be looked at from another angle. Morrow[10] quotes Osler as estimating that between 6,000 and 7,000 persons succumb to syphilis each year in England and Wales, and that is not including stillbirths, the larger proportion of which are due to lues. In fact, Osler puts syphilis in a class next to tuberculosis, pneumonia and cancer as a death-dealing agent. Then Mattauschek and Pilez[11] find that of 4,134 officers of the Austrian army who contracted syphilis between 1880 and 1900, twenty died from the disease, 198 have general paresis, 113 have locomotor ataxia, 132 have cerebrospinal syphilis and of this latter number 80 are insane. Of course, many have died of intercurrent disease, but even considering that the conclusion reached in this investigation is that 14.64 per cent. of these better-class men are dead or disabled as a result of syphilis. Gonorrhea is not considered so malignant by the general run of men, but Morrow[8] assures us that 80 per cent. of deaths from infections peculiar to women are due to gonorrhea. Were it not for that disease the gynecologic departments of the hospitals might be almost done away with, for from 75 to 80 per cent. of all operations on the female genital tract are necessitated by gonorrheal infections.[12] In addition to that, it is no small factor as a crippling agent. Cunningham[3] and Kober[2] are of the opinion that 10 to 30 per cent. of neisserian infections give rise to arthritis. So then, in spite of popular opinion to the contrary, the four or six weeks' duration of an acute gonorrheal urethritis is a very serious matter. And then either disease may be acquired innocently—not only by ignorant wives who are the greatest sufferers from the gonococcus, but by fellow-workers, or even more casual associates of the carrier of the *Treponema pallidum* — the organism of syphilis. The crusade against the public drinking-cup has called attention to the possibility of transmitting syphilis through its agency and it is a well-known fact that the disease has been spread by glass-blowers' instruments. But the epidemic described by Schamberg,[13] where nine people were infected with syphilis on account of the kissing proclivities of a young man with a chancre of the lip, should have been startling enough to beget immediate action.

The direct financial loss entailed has not been computed, but it could be approached from the proportion of taxes used in caring for our defectives, who are frequently the result of congenital lues, or for our insane or blind. A conservative estimate puts 10 per cent. of the insane in the Massachusetts asylums down to syphilis, and the yearly cost of their maintenance is $300,000.[3] Ophthalmologists assert that next to refractive errors, venereal infections are the most fruitful source of defective vision. Rosenstein[2] ventures the opinion that 20 to 25 per cent. of the inmates of our institutions for the blind are the result of gonorrhea alone.

Then there is the loss that can only be guessed at in the reduced efficiency of business people from the acute infections, from the rheumatisms, and from the mental and physical weakening caused by the late lesions of syphilis—before the patient is compelled to give up trying to work. Not only that, Knapp[14] suggests that the notable loss of life and property in railway accidents each year is partly due to syphilis, basing his conclusion on the finding of nine railway employees among 263 cases of general paresis in the Massachusetts hospitals for the insane in April, 1907. One of these men —an engine driver—had been "queer" for a year before his incarceration and had on one occasion finished his run several minutes ahead of time. Camp,[15] pursuing a similar line of investigation, found thirteen railway men among eighty-seven cases of general paralysis in the state hospital at Kalamazoo, Mich., between July, 1910, and February, 1913.

Besides that, there is the absolute loss of time to industry by people in their earning years. Here again the accurate statistics from the various branches of the service are readily available and are summarized by Surgeon-General Rixey in his report for 1909 in the statement that the disability from venereal infections if applied to the force afloat would have rendered

4. Gerrish: Social Diseases, New York, 1911, ii, 1.
5. Fischer: Public Health, Mich., Lansing, 1913, viii, 51.
6. Biggs: N. Y. Med. Jour., 1913, xcviii, 1009.
7. McMurtrie: Med. Rec. N. Y., 1913, lxxxiii, 970.
8. Morrow: Boston Med. and Surg. Jour., 1911, clxv, 520.
9. Barrett: West Canada Med. Jour., 1913, vii, 164.
10. Morrow: New York Med. Jour., 1911, xciv, 129.
11. Mattauschek and Pilez: Med. Klin., 1913, ix, 1544.
12. Rosenstein: Med. Rec. New York, 1913, lxxxiii, 467.
13. Schamberg, J. F.: An Epidemic of Chancres of the Lip from Kissing, THE JOURNAL A. M. A., Sept. 12, 1911, lvii, 783.
14. Knapp: Boston Med. and Surg. Jour., 1908, clviii, 187.
15. Camp, Carl D.: Epilepsy and Paresis in Railway Engineers and Firemen, JOURNAL A. M. A., Aug. 30, 1913, p. 655.

entirely inactive for over a month, three battle-ships with a complement of one thousand officers and men each. Table 3, taken from five of our leading hospitals in Chicago, shows a rather concrete loss in the matter of time spent in the hospital by people of earning years and rank.

TABLE 3.—LOSS OF TIME IN HOSPITAL

| Hospital | Year | Gonorrhea No. Cases | Gonorrhea Days Lost | Syphilis No. Cases | Syphilis Days Lost | Chancroid No. Cases | Chancroid Days Lost |
|---|---|---|---|---|---|---|---|
| Presbyterian ..... | 1911-12 | 18 | 753 | 46 | 961 | 0 | 0 |
| St. Luke's ..... | 1912-13 | 11 | 142 | 52 | 593 | 0 | 0 |
| Wesley ..... | 1912-13 | 4 | 99 | 151 | 1,562 | 0 | 0 |
| Michael Reese .... | 1912-13 | 10 | 161 | 107 | 1,066 | 0 | 0 |
| Cook County .... | 1912 | 463 | 5,742 | 917 | 19,389 | 150 | 1,658 |

These figures include under syphilis, general paresis or dementia paralytica and locomotor ataxia or tabes dorsalis, which have been definitely proved to be specific by the demonstration of the spirochetes,[16] and do not include aneurysms, 60 to 80 per cent. of which are generally conceded to be luetic. Neither do they include the cases of cerebral thrombosis and hemiplegia, which in a large percentage of cases are undoubtedly syphilitic. And let me repeat that these days lost are lost by people who should be producing. They do not include congenital syphilis, gonorrhea in children, or the cases listed in our hospitals under gynecology.

These, then, are the conditions. Now what has been done in combating the plague? The frequently quoted scheme of continental Europe, which is to license prostitutes, and by periodic examinations see that they are clean enough to practice their calling, is of no value. In the first place, it is too unjust to be considered. The organisms of these diseases are rarely carried from one woman to another except by the mediation of the male host. And when one whore serves an average of twenty men in one day,[17] what possible chance is there of keeping her clean by weekly or fortnightly examinations? Besides, the scheme has been discredited in the countries of its inception. In 1860 there were 200 licensed houses of prostitution in Paris, which now has less than fifty,[1] and authorities there admit that the great majority of infections come from clandestine prostitution, which is practiced for many days before the woman is forced into the open pursuit of her calling. Then, again, the reports from the recruiting stations in cities in which regulated brothels exist, compared with those in which the bawdy houses are not regulated, show definitely that the incidence of infection among enlisted men is not a good index of the prevalence of the diseases among civilians. For example, in Berlin 7.66 per thousand were rejected because of venereal infection, whereas in London 5 per thousand were rejected for the same reason. This is the more noteworthy when we remember that the Berlin men are compelled to serve in the army while the enlistment from London is voluntary. And so it is evident that the unfair regulation of a small minority of infected folks is worse than useless.

Education is being strongly advocated and is of undoubted advantage. But education alone will not suffice, as witness the condition cited among the Austrian army officers and also the fact stated by Willson,[18] in the discussion of his paper, that the medical students furnished a larger percentage of venereal infections than any other student group at the University of Pennsylvania. All the same, honest education of all classes will in time, work a tremendous change.

Another plan is that of putting these infections on the notifiable list as is done in Denmark. This scheme is properly urged by many writers. Utah has adopted such a law.[19] So has the city of New York. In the latter place, as has been pointed out, only fifteen hundred of the eight thousand physicians were interested enough to report cases, and besides that, the members of the managing boards of three of the big hospitals went to the mayor to get him to rescind the action of the Board of Health (Biggs[6]). So it appears that this very sensible procedure has much to overcome in the way of inertia as well as active opposition before it becomes universal. But it will be adopted sooner or later, and as showing which way the wind blows the Social Service Committee of Canada[20] has presented resolutions to the government asking for notification of venereal diseases. Turner[21] goes further and urges compulsory restraint of refractory cases until they are no longer a source of danger, while others there advocate the examination of all people arrested for any cause and the regulation and treatment of infectious cases until they are clean. These are all good ideas. The problem is a large one and must be approached from all sides. Of course, we must have education; we must also have notification of cases, preferably by name, but by number certainly if the other method is impracticable. And we must have absolute suppression of commercialized prostitution—not for the purpose of increasing morality, because there will be more or less promiscuous sexual intercourse as long as men and women live—but for the stamping out of known plague spots. And this is not impossible of accomplishment in a determined community, for apparently Iowa with its injunction and abatement law has the solution.[22] And we must also urge the young man to marry early — to face economic conditions as they are and pit his youth, enthusiasm and sense of responsibility against them. These are all good general measures and will in time help to eliminate the diseases.

But the most crying need is provision for effective treatment of all cases. Physicians and laymen too long have regarded these infections as disgraces and not as diseases. They cannot be cured by ignoring them. In the city of New York in 1908 there were 150 beds for venereal patients, and Goldwater[23] thinks the conditions little improved even now. Biggs, however, succeeded last year in getting the Board of Estimates to provide for a pavilion at the Riverside Hospital for the isolation and treatment of cases needing such care. In Chicago we have only 125 beds available at present. Now, a gonorrhea, when acute, is curable in all but a very small percentage of cases (3 per cent., according to Kober), but when it comes for treatment as arthritis or endocarditis it is practically impossible to provide any material relief. Syphilis also is curable in the great majority of cases if vigorous treatment is persisted in for a long enough period.[24] But when it appears for treatment in the form of general paresis, locomotor ataxia, aneurysm, cerebral thrombosis or what not, it can perhaps be arrested, but usually it means death in

16. Noguchi and Moore: Jour. Exper. Med., 1913, xviii, 232.
17. The Social Evil in Chicago, Chicago, 1911, pp. 99 and 114.
18. Willson, Robert N.: The Eradication of the Social Diseases in Large Cities, abstr., THE JOURNAL A. M. A., Sept. 21, 1912, p. 929.
19. Bogart: Am. Jour. Dermat. and Genito-Urin. Dis., St. Louis, 1912, xvi, 23.
20. THE JOURNAL A. M. A., Oct. 11, 1913, p. 1387.
21. Turner: Austral. Med. Gaz., 1911, xxx, 650.
22. Hallam: Social Diseases, 1912, iii, No. 2, p. 27.
23. Goldwater: New York Med. Jour., 1913, xcvii, 1016.
24. Collins, Joseph: Syphilis and the Nervous System, THE JOURNAL A. M. A., Sept. 13, 1913, p. 860.

a relatively short time (three to five years), with more or less complete disability in the meantime. Camp[14] suggests for the advantage of railways and the traveling public that there be periodic examinations of railroad employees by competent neurologists for the purpose of finding the indications of late syphilis in the nervous system. That is commendable, but why not look for the syphilis when any practitioner can identify it, and by compelling the infected individual to take proper treatment absolutely prevent the later manifestations of the disease? We have in the complement-fixation test a proof that is more conclusive than anything yet found to tell us when a patient is free from the gonococcus. And in the Wassermann tests we have a reliable index of the presence or absence of the *Treponema pallidum*. The Lange gold colloidal test of the cerebrospinal fluid is perhaps even more conclusive when the central nervous system is involved.[25] What we need, then, is proper hospital and laboratory facilities for the treatment and cure of active cases. And with reasonable cooperation these infections can be made as scarce as small-pox in one generation.

A great many corporations have a medical staff to care for their employees and to add to their efficiency. There is a notable economic waste due to the venereal diseases shown in the foregoing figures, and it would seem advisable to direct the attention of these medical departments to the detection and care of cases of this kind for the sake of promoting efficiency, not only during the acute stages, but also to prevent the later disabilities which come on when an employee has been long trained and should be of most value to the firm. The way in which this can best be accomplished must be worked out by each organization and its medical staff. Obviously the easiest way to begin such a campaign is to examine all new employees for evidence of disease and to question them as to past infection. In that way acute cases can be found and dealt with, and a premium will be put on denying the existence of any venereal lesion. Then quite a large number of quiescent cases of gonorrhea could be discovered by examining the prostatic fluid for the gonococcus. But the surest and most satisfactory plan would be a serum test for both gonorrhea and syphilis. Dr. A. M. Moody, pathologist at St. Luke's Hospital, tells me that a serum-testing laboratory can be equipped for first-class work for about $400 as follows:

| | |
|---|---|
| Centrifuge | $100.00 |
| Incubator | 50.00 |
| Hot-air sterilizer | 50.00 |
| Ice-box | 25.00 |
| Cages | 50.00 |
| Animals: 12 guinea-pigs, 2 rabbits, 3 hens | 15.00 |
| Glassware, racks and baskets | 15.00 |
| Miscellaneous expenses | 100.00 |

And that surely is not a prohibitive figure.

Then a number of business houses have mutual benefit associations. Employees applying for membership could be examined for venereal as well as other disease, and so not only would there be a check on new employees, but also on older members of the working force. And it would be well to ask prospective members of such an association to waive claim for any disability due to venereal infection, whether or not they were found clean. In fact, life and benefit insurance companies in general must see that their insured are much better risks when free from venereal taint. Serum tests ought to be part of the routine insurance examination, and premiums should vary with the results. Men frequently increase their insurance as they grow older, and it would be easy to check up the serum findings when a new policy is applied for. Recall for a moment that the 70 to 80 per cent. of gonorrheal gynecologic operations corresponds right closely to the estimated 75 per cent. of acquired gonorrhea in men—then why shouldn't the insurance company protect itself by increasing the premiums on a woman's policy as soon as she is married unless both she and her husband show negative serum tests? Perhaps that looks a bit lurid, but it is entirely feasible, and when the great American conscience is prodded on its pocketbook by such measures, there will shortly be such an outcry for the public weal as will not only give us ample regulative, hospital and laboratory accommodations to cope with the multitude of cases by which we are now confronted, but will, in a relatively few years, render these venereal diseases of little but historical interest.

7 West Madison Street.

25. Sippy and Moody: Lange's Colloidal Gold Chlorid Test on the Cerebrospinal Fluid: read before the Congress of Physicians at Washington, D. C., May, 1913.

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## THE ISCHEMIC LUMBAGO

### A FURTHER CONTRIBUTION TO THE LUMBAR TYPE OF INTERMITTENT CLAUDICATION

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In a previous paper I directed attention to the occurrence of a *lumbar type* of intermittent claudication.[1] This affection is characterized by a painful spasm of the muscles in the lumbar region following the exertion of walking or standing, which disappears promptly after a brief period of rest. The pain was bilateral, limited above by the twelfth rib and below by the crest of the ilium. The muscle mass corresponding to this region is composed of the sacrolumbar portion of the erector spinae group and the quadratus lumborum muscles, and receives the greater part of its blood-supply through the lumbar arteries, which take their origin from the abdominal aorta. A great part of the muscular effort of walking and standing will naturally call into activity these muscles, and the symptoms of intermittent claudication were ascribed to an interference with the blood-supply of this region, either by disease of the lumbar arteries themselves or of that section of the abdominal aorta whence these vessels take their origin. In this manner a reduction in the quantity of blood circulating in the affected region is produced. The blood-supply is sufficient when the muscles are at rest, but inadequate for the requirements of active muscular effort; hence the intermittent ischemic character of the symptoms.

In the present paper this clinical picture is the subject of further study, and is enlarged by the description of a strictly *unilateral type*, and of a milder form of lumbar intermittent claudication resembling lumbago in location and character of pain, but which is evidently vascular from its intermittent character, the *ischemic lumbago*.

CASE 1.—*Severe unilateral lumbar pains, occurring only on exertion, of the "ischemic type," in a woman aged 66, who*

1. Hunt, J. Ramsay: The Lumbar Type of Intermittent Claudication, Am. Jour. Med. Sc., February, 1912.

*has suffered from intermittent claudication of both lower extremities for ten years. The unilateral lumbar pains were always relieved by a brief period of rest and presented the typical character of the intermittent claudication.*

The patient has been under my care for intermittent claudication of both lower extremities for the past ten years. Her symptoms are typical of the disease and the case has been fully described in a previous paper.[2] The left leg is more affected than the right and there are the characteristic painful cramps, paresthesias and rigidity on exertion which disappear after a brief period of rest. The femoral and popliteal arteries pulsate equally on the two sides; but the pulsation in the right dorsalis pedis is thread-like and is often not palpable, and there is only a feeble pulsation in the left posterior tibial. The left dorsalis pedis and the right posterior tibial show good strong pulsations.

Since my original report there has been practically no change in the condition of the lower extremities. The patient, however, has developed symptoms of diabetes in a mild degree which are readily controlled by diet. The amount of sugar varies from 0.3 to 1 per cent. Heart shows hypertrophy of left ventricle. Marked accentuation of aortic second sound. Systolic blood-pressure, 200 mm. General neurologic examination is negative.

*Onset of Lumbar Symptoms.*—In April, 1912, the patient first noticed pain in the lumbar region of the left side when very tired and after muscular exertion. This was described as an aching and throbbing sensation and it gradually increased in severity and in frequency. It is strictly limited to the left side of the vertebral column, below the ribs and above the crest of the ilium. When very severe there is a tendency for the pain to extend somewhat laterally, but never beyond the midaxillary line. At times the pain is quite sharp and knife-like in character, or as if an iron claw were gripping her in the loin. There is also at times a bursting sensation. These subjective symptoms are accompanied by a distinct feeling of weakness in the left side of the lumbar region after prolonged muscular effort. She says that the muscles do not feel as if in cramp or spasm, but there is often a swollen sensation as if there were "something there like an abscess." I have never been able, however, to make out any swelling or enlargement. Sometimes after the pains have persisted for a time the muscle mass is tender to deep pressure, but the tenderness is never of long duration. The pains come on only while the patient is walking or standing; or when sitting with the back unsupported, as in writing at a desk. All pain disappears promptly after a brief rest in the recumbent posture, and even the most violent paroxysms vanish after a short rest in a relaxed posture, although a dull aching and occasional shooting pain may last for several hours, if she has forced herself much during the day. At night in bed she has no pain.

In the morning on arising she is quite free from pain or stiffness in the back, but the exertions of dressing soon bring on the pain again. It never extends to the right side of the vertebral column. She has noticed that corsets make her less susceptible and that efforts in the early morning without this support are particularly prone to produce pain.

Her spine is perfectly normal in contour and mobility and there is no pain in the sacro-iliac articulation. Passive and active movements of the hip-joint in the recumbent posture are free and cause no pain.

I have seen the patient at regular intervals since the onset of these symptoms in April, 1912, and feel convinced that the unilateral symptoms in the lumbar region are of the same nature and have the same cause as the intermittent claudication in the lower extremities. The case is of interest as showing that intermittent claudication of the lumbar region may occur as a unilateral affection, and is due to a diminution in the flow of blood through the lumbar arteries of the affected side, the obstruction being situated in the arteries themselves or at their origin in the abdominal aorta.

2. Hunt, J. Ramsay: Intermittent Claudication and Allied Syndromes due to Angiosclerosis of the Extremities, Med. Rec., New York, May 27, 1905.

CASE 2.—*Unilateral intermittent claudication of the lumbar region, complicating aneurysm of the abdominal aorta.*

The patient is a man aged 51, with aneurysm of the abdominal aorta, whom I saw through the courtesy of Dr. David Bovaird. He is a plumber with a history of lues thirty years previously. Since June, 1912, he has been subject to pains in the left lumbar region which appear only after exertions as in walking, standing or in certain bending postures which bring into action the erector spinae group. The pain is quite severe and cramp-like and is localized in the muscles of the lumbar region to the left of the vertebral column. The intermittent pain and spasm have gradually grown worse, so that a walk of two or three blocks now is sufficient to bring on the painful symptoms. At such times there is also a sensation of weakness in the back. It is invariably relieved by a short rest from two to three minutes, either by sitting or by leaning up against a wall or other support. The pain always recurs in the same manner and in the same location after exertion, and it invariably disappears after a brief period of rest. While sitting or in the recumbent posture he is quite free from pain. During the night he suffers no pain or cramp in the lumbar region, but as soon as he is dressed and leaves the house, the pain appears after covering a given distance. At first this was several blocks, but now from two to three blocks is the distance limit. There are no subjective symptoms referable to the upper or lower extremities.

*Physicel Examination.*—June, 1913: The man is thin and anemic from loss of blood—"gastric hemorrhages." Red blood-corpuscles, 2,432,000; hemoglobin, 30 per cent. The urine is free from albumin or sugar. The cardiac impulse is felt in the fourth interspace 8 cm. to the left of the midline; action is regular and of good force. There is a soft systolic bruit over the base in the pulmonary area which is transmitted to the axilla; there are no diastolic murmurs. The right limit of cardiac dulness reaches to the sternal border. Posteriorly over the lower portion of the left side of the chest there is an area of pulsation extending from the spine to the postaxillary line. There is also a heaving pulsation in the left upper epigastric region, and bimanual palpation shows definite expansile character.

Roentgenoscopy reveals aneurysmal dilatation of the upper portion of the abdominal aorta. Neurologic examination is negative.

The ischemic symptoms in this case are also unilateral in distribution, and are of special interest because of the association with aneurysm of the abdominal aorta. It is well known that intermittent claudication of the lower extremities may occur as a sequel to aneurysm of the larger vessels of the lower extremities. Indeed, Charcot's original description of the syndrome was based on a case of aneurysm of the iliac artery.

It is possible that further observations will demonstrate the occurrence of intermittent claudication of the lumbar region as an early symptom of abdominal aneurysm, and it is therefore well to bear in mind this possible association.

CASE 3.—*Ischemic lumbago in a man aged 70.*

The patient retired from his business of storekeeper three years ago, since which time he has lived quietly in a small town in New Jersey. He has always been moderate in the use of alcohol and tobacco and never acquired syphilis. About two years ago he first noticed that during long walks an aching pain developed in the lumbar region on both sides of the vertebral column. If he rested for a few minutes all trace of the pain promptly disappeared and he was able to resume his journey. About the same time he noticed that the feet would become numb during the walk, and that this also passed off after the short rest. Since the appearance of these two symp-

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toms, pains in the lumbar region and numbness of the feet, he has never failed to experience them during a walk and never at any other time unless he stands constantly in one position, when the same symptoms make their appearance.

As time wore on, the aching pains in the back seemed to come on more often and after going shorter distances, so that now a quarter to half a mile never fails to elicit the symptoms. A short rest of three or four minutes brings immediate relief. The patient never has the pain in the recumbent or sitting posture, unless he is in an uncomfortable chair which does not support the back and he leans forward.

The pain corresponds in a general way to that portion of the erector spinae group which is situated below the twelfth rib and above the iliac crest, and is on both sides of the column. It does not extend laterally beyond the posterior axillary line. It is an aching pain and if he continues walking for a time after it appears it becomes quite severe, and the muscles feel as if in cramp, the affected portion of the back becoming weak and stiff.

The sensations in the lower extremities consist solely of paresthesia of the feet; there is no pain and the muscles of the feet and legs do not cramp.

Since the onset of these symptoms two years before, they have recurred constantly as the result of exertion, and at no time has the patient been able to walk the usual distance without their appearance. He asserts that changes of weather and the seasons have no appreciable effect on the severity of the occurrence of the symptoms.

Six months ago he developed a severe sciatic neuritis with the accompaniment of pain along the course of the nerve, and paresthesia of the left foot and leg. Later the muscles of the calf wasted and there was a tendency to foot-drop on the affected side. It was for this affection that he presented himself at the Vanderbilt Clinic and was referred to the neurologic department.

There is no pain in the right leg, and the action of the sphincters is normal. For some months the patient had had occasional pain in the left shoulder-joint which shows some limitation of movement. The shoulder pain and the sciatica are both aggravated by changes of weather.

*Physical Examination.*—The man is senile in appearance, with well-marked arcus senilis. The dorsal region of the spine shows a slight senile kyphosis. The movements are normal and free from pain or any special rigidity. There is no tenderness on pressure. After bending movements of the spine have been practiced for about five minutes, the same aching pain appears as after walking, and rapidly progresses to a severe painful spasm, which quickly passes off in the recumbent or reclining posture. The first heart-sound is weak and there is a systolic murmur at the apex; the second sound is accentuated. The femorals, popliteals, posterior tibials and dorsalis pedis arteries pulsate equally on the two sides. The same is true of the radials. There is active pulsation of the abdominal aorta palpable in the epigastric region, but no dilatation can be demonstrated. The urine is free from albumin or sugar. Roentgenogram of the lumbar region is negative.

Neurologic examination shows the residual signs of old sciatic neuritis, paresis of the peroneal and extensor groups of the left leg, with atrophy of the muscles and diminution of the left Achilles jerk. There are patches of anesthesia over the dorsum of the left foot and the outer side of the leg. The pupils are small and the reactions are difficult to test owing to old corneal opacities, the result of an inflammatory affection of the eyes forty years before. The knee-jerks are present and equal, as are also the tendon reflexes of the upper extremities. The plantar reflexes are normal.

The symptoms of lumbar ischemia in this case were of two years' duration and preceded the sciatic neuritis by one and one-half years. It was readily differentiated from the rheumatic affection of the lumbar region by the intermittent character, occurring only during muscular activity with complete cessation after a brief period of rest. Movements of the lumbar spine were normal and painless, unless the bending movements were continued, when the painful spasm was produced.

## ISCHEMIC LUMBAGO

I think that there can be very little doubt, from the characteristic symptomatology presented by the cases recorded in this and in my earlier publication, that a condition, which may be termed "ischemic lumbago," or "intermittent claudication of the lumbar region," may occur both as a bilateral and as a unilateral affection. The recurrence of the symptoms regularly during muscular action and their prompt cessation during rest are characteristic of this type of lumbar pain; the blood-supply being sufficient in the passive state, but not equal to the increased demands during activity, with the resultant pains, cramps and weakness in the affected muscles.

When one considers the frequency of arteriosclerotic changes in the abdominal aorta, the thought naturally arises that there is a relationship between such lesions and the intermittent weakness, stiffness and pains in the lumbar region occurring in advanced life. This is a senile type of backache of vascular origin, in which the symptoms are not so clearly defined as in those which I have just described, but which nevertheless bear an essential relation to the defective blood-supply, and is promptly relieved by the recumbent posture or rest in a comfortable chair. Such lumbar pains, cramps and weakness bear the same relationship to exertion as do the cases described in this paper, although less clearly defined and less acute, and are promptly relieved by rest. In cases of this character in which a definite relationship to exertion may be demonstrated, the possible vascular or ischemic origin from defects in the lumbar circulation should be considered.

## DIAGNOSIS

Ischemic lumbago is readily recognized and differentiated from all other affections of the back by the following characteristics:

In ischemic lumbago there is a sensation of pain or painful cramp, which may be associated with a feeling of weakness or stiffness, localized in the muscles of the lumbar region. This may be bilateral or strictly unilateral in distribution and is limited above by the twelfth rib and below by the crest of the ilium. When severe the pain may radiate as far laterally as the mid-axillary line. The painful area is not tender to pressure, except after prolonged exertion, and then it is not of long duration. This pain is characterized by its intermittent character and absolute dependency on muscular exertion.

If there is no effort or strain on the muscles there is no pain. When the pain is induced, any posture which places the affected muscles at rest promptly produces relief, and the pain ceases.

For diagnostic purposes, bending movements of the spine may be used to induce the pain and demonstrate its local and intermittent character. The movements of the spine are normal and in the beginning painless, which is an important distinguishing feature from lumbago of rheumatic origin.

In the cases which have come under my observation, the pain was not influenced by changes of weather, and this may be regarded as another point of difference in

differentiating from the rheumatic lumbago, with which it is most likely to be confused.

All other affections of the spinal column and pelvic joints may be excluded by the complete freedom of pain in active and passive movements.

20 West Fiftieth Street.

## THE SNARE VERSUS THE SLUDER OPERATION IN TONSILLECTOMY

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I have been following with a great deal of interest what is being said regarding the Sluder tonsillotome and method of removing the faucial tonsils. So much of it has been commendatory and perhaps deservedly so, that it is with considerable hesitation that I raise any question either with regard to the aptitude of the instrument, or the efficiency of the Sluder technic. The way in which some surgeons have taken up this instrument and this special method makes one think that the operative procedures of these men in tonsillectomy during their previous practice must have been very unsatisfactory.

The Sluder instrument is similar to the old McKenzie tonsillotome, modified in a few respects and so constructed as to be used in reverse position. This undoubtedly gives it a decided advantage over the older instrument, as its facility for engaging the tonsil is increased, a greater leverage is gained, and, on the whole, for this method of tonsillectomy, it is a better instrument. With the McKenzie tonsillotome, however, there was quite a large percentage of enlarged tonsils that could be removed quickly, completely and to the entire satisfaction of both the operator and the patient.

The chief advantages and the real value of the modified instrument are found in the new points in operative technic which were introduced by Dr. Sluder. There can be no doubt but that he has discovered a very valuable aid in the complete removal of tonsils by the tonsillotome alone, in his method of dislocating the gland forward and upward and crushing it through the oval aperture of the instrument by pressing it against the inner surface of the mandible. It is my opinion, however, that even with the introduction of this method the claimants for the value of the modified tonsillotome have been altogether too enthusiastic.

After thoroughly testing the original instrument and Dr. Ballenger's modification of it, at the university clinic and elsewhere, with strict adherence to the Sluder technic, it is my opinion that quite a percentage of tonsils either cannot be removed by it at all, or only with the greatest difficulty. Unfortunately, these especially need to be completely removed; for example, tonsils that have been previously "clipped," leaving a broad, flat base, which has been invaded by frequent infection, and has become firmly bound to the surrounding structures by fibrous bands of scar tissue, so that the remaining portion of tonsil is not only partially buried by the pillars of the fauces and folds of the soft palate, but is firmly held in its position by these unyielding bands. Such a condition is by no means rare. There is also a soft friable flat tonsil made up largely of crypts and pockets, filled with a soft caseous infected material which produces a continual inflammatory condition. Such tonsils often crush almost like jelly, and from their peculiar shape, are most difficult to engage in the aperture of the Sluder tonsillotome.

The other classes of tonsils which are difficult to operate on by this method I do not care to take space to mention. It is my opinion that no one will deny that the thorough enucleation of tonsils belonging to the two classes previously mentioned is exceedingly important.

Too much credit cannot be given to Dr. Sluder for the technic he has devised for the use of the tonsillotome. On the other hand, the removal of simple hypertrophied tonsils is comparatively so easy, that its operative method is of no great importance. Many of these, as I said in the beginning, can be removed quickly and completely with the tonsillotome, but the Sluder method no doubt facilitates the enucleation of many tonsils which heretofore the tonsillotome could not remove. If, however, the technic is not available in the removal of the varieties of tonsils which are not only most difficult to remove by ordinary methods, but also show most need for removal, it does seem from the point of view of a teacher of clinical laryngology that we should present to the student a method which may be successfully used in all cases. Fortunately there is such a method, and while it may be a little more difficult to master, it is of equal service, when once acquired, in every class of cases. With this method all are familiar, but I shall present it in a few words.

Place the patient in the dorsal position with the head slightly lowered. Obtain complete relaxation by ether anesthesia and thoroughly illuminate the throat by a good head-light. Grasp the tonsil firmly and deeply with a curved tenaculum; lift the gland from its bed and dissect it from the surrounding structure with a right-angled knife (or scalpel), slip a snare over the tonsil down to its base and remove it. The work can be done with the most difficult tonsil in less time than it has taken to describe it, and the technic is of equal use in all cases. With such a simple, complete and universal method as the snare operation affords, it is difficult for me to understand why many seem to be earnestly searching for some other method and willing to try a new instrument and adopt another technic.

## CHRONIC TUBERCULOUS DIAPHRAGMATIC PLEURISY WITH SYMPTOMS RESEMBLING GASTRIC ULCER

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This series of cases, observed for the most part in the medical clinic of the San Francisco Polyclinic, is reported for the reason that the pain of which the patients complained so closely resembled that of gastric ulcer that they had frequently been informed that they suffered from that disease, and in some instances the patient had undergone prolonged treatment without good effect.

The occurrence of a distinct symptom-complex consisting of pain going through to the back, vomiting and gas as a symptom of chronic diaphragmatic pleurisy has not, so far as I know, been mentioned, although the literature is full of references to the sometimes puzzling occurrence of pain in the abdomen caused by pneumonia of the lower lobe or of acute basal pleurisy.

This symptom-complex of which I am speaking is due to adhesions between the diaphragm and basal pleura and is caused, not by an acute inflammation accompanied by fever and leukocytosis, but by a mechanical pulling of the adhesions on the diaphragm, as a result of which pain is referred along the course of the lower intercostal nerves to their termination over the abdomen. The prominent symptom of pain is thus produced while the patient is apparently well. There is no cough, fever or anything to suggest lung-disease, while the site and character of the pain seem to point conclusively to gastric ulcer. In case a hemorrhage has occurred, the picture has seemed complete and physician and patient alike have accepted it as conclusive proof of the existence of an ulcer.

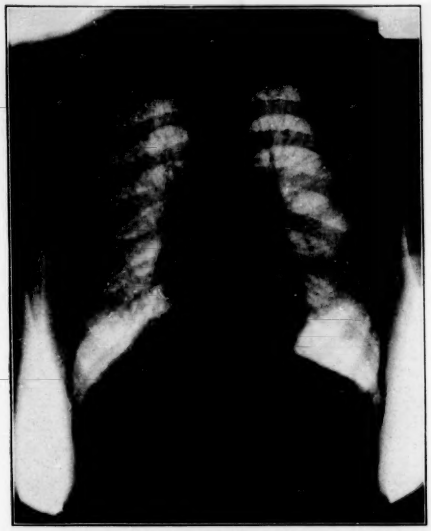

Fig. 1.—Localized retraction of the right diaphragm; shadow at right apex; infiltration and peribronchial thickening at the root of each lung, with infiltration from the right hilus to the base; calcified lymph-nodes. This picture and Figures 2, 3, 4, 5 and 6 were taken by Dr. Anna K. Davenport.

These patients are usually of a neurotic type. They have been under treatment for stomach-trouble for many years and their knowledge of the signs and symptoms of gastric or duodenal ulcer is equaled only by their readiness in interpreting their experiences to correspond with the text-book description of this malady.

The histories are all very similar. The patient has for years been troubled at intervals with pain over the stomach after eating. This pain goes through to the back and a tender spot can be found to the right of the lower dorsal vertebrae. The taking of food or alkalies often relieves the pain and vomiting always relieves it for a time. The presence of much gas is complained of as a very annoying symptom. The patients also tell of prolonged courses of treatment in hospitals on limited diet, which has had no effect on the pain, but unfortunately has hastened the development of any latent tuberculous lesions that were present.

When the sufferer has sought relief from the surgeon rather than the physician, his condition has been still more pitiable. Gastrojejunostomy, removal of supposed chronic appendixes, tying up of supposed floating kidneys, etc., have been followed by as many explorations for adhesions as the patient's strength will stand. It will not stand for many, however, and he returns finally with his pain still unrelieved, but with the evidences of active lung-trouble that throw his former gastric symptoms into the background.

CASE 1.—Miss E., aged 28, came to the clinic complaining of severe pain in the stomach after eating. She has had attacks of stomach trouble for many years and in 1906 was for a long time in a hospital following a hemorrhage, which was supposed to have come from a gastric ulcer. The pain is at present worse than usual and goes through to the back. She has lost 10 pounds in weight and is afraid she is going to have another attack. She has had no other illnesses and is not subject to coughs or colds; vomiting relieves the pain, and she is troubled with gas. Cross-examination changes her story somewhat. The pain has no definite time relation to eating. It is usually felt over the stomach as she described, but at times in the back only or in the side. She has a slight cough and sometimes has night sweats and fever in the afternoon.

Physical examination shows no further evidences of stomach trouble. There are no occult blood in the feces and no abnormalities of stomach contents. Examination of the chest, however, reveals definite signs of trouble. The roentgenogram (Fig. 1) shows localized retraction of the right diaphragm; shadow at the right apex; infiltration and peribronchial thickening at the root of each lung with infiltration from the right hilus to the base, and calcified lymph-nodes.

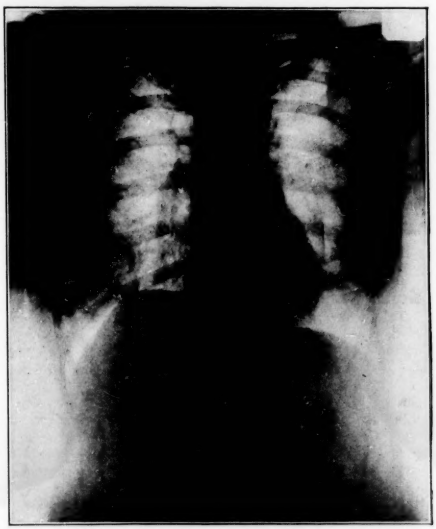

Fig. 2.—Localized retraction of right diaphragm; shadows at right and left apices; infiltration at each hilus and throughout each lung, with isolated tubercles between the right hilus and the base.

On being put under observation she shows a slight afternoon rise of temperature and reacts to minimal doses of tuberculin. Under regimen and liberal diet the stomach symptoms have

nearly disappeared and the occasional pain is now clearly due to overexertion.

The marked retraction of the diaphragm on the right side seems to be a mechanical cause for the occurrence of pain in this case in view of the fact that no other abnormality found could have accounted for it.

CASE 2.—This patient suffered from pain of the same character as that described. This was ascribed to gastric trouble

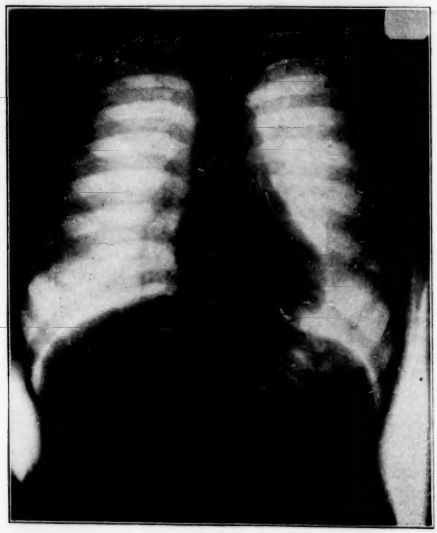

Fig. 3.—Localized retraction of the right diaphragm; infiltration at the right and left hill, with enlarged bronchial lymph-nodes; infiltration from right hilus to base, and a few isolated tubercles.

and she was carefully investigated by a number of physicians. No evidences of stomach disease were found but instead evidences of a chronic fibroid tuberculosis.

Roentgenogram (Fig. 2) shows localized retraction of right diaphragm; shadows at right and left apex; infiltration at each hilus and throughout each lung, with isolated tubercles between the right hilus and base.

This patient was a woman of 60 and the tuberculosis was of the fibroid type without much in the way of active symptoms. The absence of fever and cough seems to preclude ascribing the pain and stomach symptoms to the toxic effect of the tuberculosis, while the marked retraction of the diaphragm suggests itself as the cause.

In her case, prolonged and careful investigation had excluded gastric disease before the chest was looked on as a possible source of the pain.

She has been under observation for a year, has improved much in general health, suffers no more from so-called stomach trouble, and the lung condition has improved.

CASE 3.—This patient comes complaining of pain after eating, accompanied by gas and distention. Vomiting often occurs which relieves the pain. Four years ago she was operated on for gastric ulcer, but without effect on the pain. It has been worse recently and she says that she has lost about 10 pounds in weight. There is no cough or expectoration, but last year she had an attack of pleurisy of the lower right chest lasting two months. Three years ago she had a cough with expectoration in the morning.

Examination shows the stomach distended with gas and a painful point to the right of the abdomen and also to the right of the vertebral column. Gastric analysis shows no abnormalities. There is no occult blood in the stools. Roentgenoscopy of the stomach, after a bismuth meal, reveals a normal stomach with no sign of any change due to operation. Examination of chest shows harsh breathing at the right hilus, diminished resonance at the right apex, and limited motion of the right diaphragm with relative dulness of the base. On observing the temperature, a typical afternoon rise to 99.5 or 100 is seen.

The roentgenogram (Fig. 3) shows localized retraction of the right diaphragm; infiltration at the right and left hili with enlarged bronchial lymph-nodes; infiltration from the right hilus to the base, and a few isolated tubercles.

While the retraction of the diaphragm is not so marked as in the two previous cases, the pain is ascribed to this cause on account of absence of any proof of gastric disease or any other abnormality which seems likely to cause pain of this character.

After six months of regimen, diet and tuberculin, the gastric ulcer idea has vanished. The patient occasionally has pain, especially pain in the back, but this can always be traced to overexertion, particularly overuse of the arms.

CASE 4.—This patient has suffered from abdominal pain for the past ten years. As he had then recently returned from the tropics, it was supposed to be due to tropical dysentery infection, and an operation to allow flushing of the intestine was performed. This resulted in no improvement and the appendix was removed. This and several operations for adhesions resulting in no improvement, a short circuit of some kind was made in the intestines and following this another operation to correct the vicious circle.

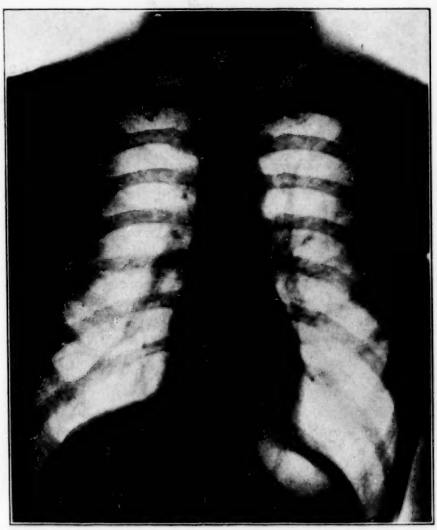

Fig. 4.—Localized retraction of diaphragm; shadows at right and left apices; infiltration at each hilus, with calcified lymph-nodes; infiltration at each base, with some recent tubercle formation.

On presenting himself for examination he is seen to be thin and ill nourished. He has begun to cough and expectorates some. He is very nervous and hypochondriacal and is firmly convinced that his difficulty is entirely in the abdomen. Signs of pulmonary trouble are so evident, however, that he is willing to undergo treatment, and on being confronted with a roentgenogram of himself he remembers an

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attack of pleurisy in the lower right side which occurred prior to his original supposed tropical infection. Evidences of diaphragmatic pleurisy present are limited motion of the right diaphragm, pain over the course of the lower intercostal nerves, and relative dulness of the lower right chest.

The roentgenogram of his chest (Fig. 4) shows localized retraction of the diaphragm; shadows at right and left apex; infiltration at each hilus with several calcified lymph-nodes,

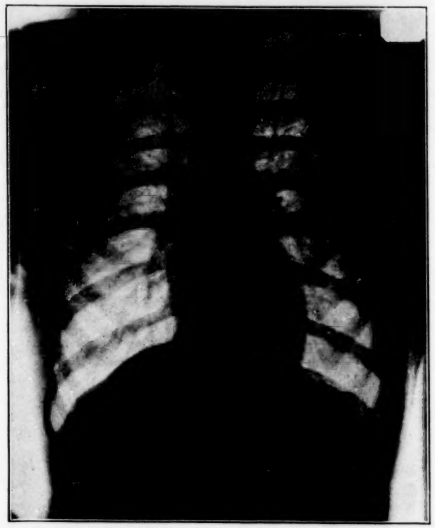

Fig. 5.—Shadow at right apex; infiltration at right and left hili with calcified lymph-nodes; recent infiltration at right and left bases; localized retraction of right and left diaphragm.

and recent infiltration of the right and left bases with some tubercle formation.

CASE 5.—This patient complained of pain of the general character of that described. Physical examination showing evidences of lung abnormalities, a roentgenogram (Fig. 5) was taken which showed a shadow at the right apex; infiltration of the right and left hili with calcified lymph-nodes; recent infiltration at right and left base, and localized retraction of right and left diaphragm.

Under regimen and antituberculous treatment the pain has largely subsided although it is still present at times.

CASE 6.—This patient had been under a prolonged course of treatment for supposed gastric ulcer. Her pain was identical with that before described and she was convinced that she was in imminent danger of perforation. As a result of her limited diet and unfavorable surroundings, she had lost 30 pounds in weight and suffered more than ever.

Physical examination showed afternoon rise of temperature; reaction to minimal doses of tuberculin; retraction of right diaphragm, and abnormal breath-sounds at each hilus and right base, without moisture.

Roentgenoscopy revealed localized retraction of the right diaphragm due to adhesions; infiltration at each hilus with old lymph-nodes, and recent infiltration at the right base.

Six months of rest, diet, open air and tuberculin have resulted in a return to the patient's normal weight and health. She only occasionally feels the old pain, the nature and cause of which she thoroughly understands. She is no longer afraid to eat and the return of her old trouble is no longer feared.

CASE 7.—This differs in no particular from the others in essential facts. The pain after eating, at first ascribed to gastric ulcer, was found to be due to old pleurisy of the right base. Evidences of pulmonary disease were present and the patient was sent to the tuberculosis hospital after all investigations had proved that no disease of the stomach existed. Here he was lost sight of and he is only referred to as his history shows the presence of the symptom complex under discussion, with no signs of gastric disease but with evidence of the presence of pulmonary tuberculosis.

CASE 8.—This patient is referred to as her picture (Fig. 6) shows in a remarkable manner the presence of pleuritic adhesions between the base of the lung and the diaphragm. She has an advanced case of tuberculosis, in which an artificial pneumothorax was performed for the relief of severe cough caused by large cavities in the right lung. Following the third injection of gas, which produced a positive pressure of 2 cm. of water with inspiration, she suffered for several hours with pain in the stomach, gas and vomiting. This is not a common occurrence after operations to produce pneumothorax, and the picture apparently shows the cause. The adhesion extending from the base of the lung to the diaphragm, pulling up the latter with inspiration, may be taken to be the cause of the presence of pain in this instance for the reason that pain in the abdomen, gas and vomiting do not frequently occur from other effects of the operation of artificial pneumothorax, and no other cause than the pleuritic adhesions could be found to account for it.

Taking into consideration the evidence of this roentgenogram with a consideration of the series of cases

Fig. 6.—Advanced tuberculosis of both lungs after artificial collapse of the right; dense infiltration of left lung, with tubercle formation; conglomerate tubercles throughout right lung, with cavity at level of second rib; collapsed lung is attached to diaphragm by fibrous adhesion.

here presented, it seems fair to conclude that the presence of pleuritic adhesions between the base of the lung and the diaphragm, causing localized retractions of the latter, may in some instances produce a symptom-complex of pain, gas and vomiting resembling the symp-

toms of gastric ulcer. If such patients are carefully examined for beginning lung tuberculosis, and it is borne in mind that the phrenic plexus and lower intercostal nerves may transmit pain to the front of the abdomen when the disturbance is in fact between the diaphragm and the base of the lung, many operations for gastric ulcer may be avoided and many lives saved by early resort to antituberculous treatment.

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## EPIDEMIC POLIOMYELITIS AND DISTEMPER OF DOGS

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It has recently been my fortune to attend several cases of poliomyelitis and to investigate a small epidemic which occurred among the Indians of some fishing villages situated in central Alaska near the town of Tanana on the Yukon River.

The epidemic was not an extensive one. There were a few more than thirty cases in all. There were four deaths, three of which occurred in camps on the Yukon River and one at Tanana, Alaska. In five cases there was residual paralysis. The symptoms of poliomyelitis were in no way different from those which are usually described. Eleven of the cases came under observation of the army surgeons stationed at Fort Gibbon.

The interesting features of this epidemic were associated with its mode of origin, its progress and its decline. The epidemic among the human subjects was preceded by an epidemic of "distemper" among the dogs. The symptoms manifested by the dogs were the same as those shown by the human subjects.

There have been several unexplained facts noted in the study of the epidemiology of this disease on which this epidemic throws light. Epidemics have been more frequent and the case rates higher in small towns than in cities. There has been the question of infection through the medium of stable-flies (*Stomoxys calcitrans*). There has been a suspicion that the disease might be perpetuated in some of the domestic animals and that the infection could be brought from them to the human subjects.

The people among whom this epidemic took place were not in close contact with the usual routes of travel. There was little probability that the disease was brought to them from the United States. They have had such epidemics before. Sporadic cases are not unknown. They have no domestic animals other than dogs. They have a great number of dogs which they use as work animals to draw their sleds in winter and tow their boats in summer. About the fish-camps the dogs are ubiquitous. They are camp scavengers. They are in close contact with the natives and play with the children. It is to be expected that the natives and the dogs would share each other's diseases as well as the feasts and famine and periods of hardship or ease which may fall to their common lot. The lives of the natives and of the Esquimaux or Malamut dogs are closely associated. They depend on each other at times for existence. These dogs are probably more closely associated with men than are animals of any other species.

There are two or three kinds of "distemper" which affect the dogs. One kind is a sort of influenza. There is another kind which is more severe and more fatal. The dogs which are affected by it die in great numbers. Those which survive are apt to be weakened. In many instances there is partial motor paralysis of the hind legs. There are frequently clonic contractions which usually affect one hind leg.

The epidemics of distemper occur every three or four years, though there are apt to be occasional cases between the epidemics. The young animals are affected. In years when there is an epidemic, practically all of the animals which have not been previously infected are attacked. When there is a sufficient accumulation of unprotected material another epidemic occurs. In this respect the epidemics of "distemper" are similar to epidemics of small-pox in unprotected communities.

The summer of 1913 was a time of epidemic distemper among the dogs of the Yukon and Tanana valleys. The disease became prevalent during July and August, and continued until the frosts in the latter part of September. The type of "distemper" was very severe. From 50 to 80 per cent. of the young animals which were affected by it died or were so badly affected that they were killed to relieve their suffering.

The distemper in the dog commences with symptoms of coryza. There is running from the nose and collection of pus at the inner canthus of the eyes. In cases which are not very severe the discharges are more mucous. In the more severe cases they are more purulent. In the very severe cases the pus is thick and dark yellow. There are fever and the usual loss of appetite common to all infections. The animals may die in two or three days, or the disease may become more chronic and they may live for several weeks or ultimately recover. In some of the severe cases there are convulsions early in the disease. The dogs usually show paralysis of the extremities. The infection may extend to the lungs and the animals have the symptoms of pneumonia.

In the latter part of August, 1913, word was brought to Tanana that the Indians at two fishing-camps 25 miles down the Yukon River were suffering from some disease. Such rumors are frequent among the Indians and excite little attention. On September 4 two bodies were brought to the mission at Tanana from one of these fishing-camps for burial. One was that of a child aged 2 the other that of a woman aged 18, an aunt of the child. There had been no white persons in attendance and the cause of death could not be learned from the Indians. The child had "just died." The woman had been sick for a day or two and had died because she could not breathe. The lungs had filled up. No other information could be obtained from those who were present. No necropsy was made.

On September 9 an Indian woman, aged 22, came under observation. She had been visiting at the vicinity of the fishing-camps. She was the wife of a white man who had contracts for carrying the Alaskan winter mails. He had fifty dogs which were used during the winter for sledding. The epidemic of "distemper" had broken out among his dogs, and he had been visiting the camp where the dogs were kept during the summer. The dogs were valuable and he had given them care to prevent loss through the disease. Seven out of eight young dogs in this lot which were sick with distemper died or were killed. The wife and child of this man were with him on this trip.

Shortly after her return to Tanana the woman became sick. She had the usual manifestations of an attack of influenza, but in addition complained that her legs were heavy. On September 11 she was seen again. At this time there was fever, the temperature being 101 F. She

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had slight difficulty in breathing. There were coarse râles throughout both lungs with partial consolidation at the base of the left lobe. There was not enough consolidation to account for the difficulty of respiration. She complained that both legs were paralyzed. She was unable to move them. During the night her left arm became paralyzed, her breathing became more and more shallow and death occurred toward morning.

One other death took place from this disease in the case of a young Indian who lived at the fishing-village. There were three patients with paralysis brought from

Fig. 1.—Dog with distemper. Hind legs paralyzed.

the same village to Tanana for treatment. They were children who were members of the same family in which the first deaths had taken place. Two of them had both legs paralyzed. The other had but one leg affected. One other patient with paralysis of both legs remained at the village.

Seven other patients were brought to the Tanana Mission from camps on the Tanana River. These camps were 50 miles distant from those in which the disease was originally reported. In the Tanana camps, as in those on the Yukon River, there was first the epidemic among dogs, after which there was the outbreak of disease among the Indians. The disease among the human subjects was here of a less severe type. The early cases were treated with large doses of hexamethylenamin. Whether as a result of this treatment or because of less severe original infection most of the patients made prompt recovery. All of these patients were children. Two of them had slight paralysis, one of an arm, the other of both legs. The last-mentioned was a girl of 12, who was taken sick October 1. She was able to walk about a little, October 14, and was regaining the use of her legs.

In the milder cases the only symptoms were those of coryza and bronchitis. When taken sick the children were stupid rather than restless. This fact was remarked by their parents. They wanted to sleep a great deal. It may have been in part a racial characteristic or in part due to the fact that they had been traveling from their camps and were tired out.

There was not conclusive evidence that the milder cases were of the same infection as that which caused the paralysis. There was strong presumptive evidence to this effect in the fact that several children of one family would be taken sick at the same time, and that only those who were most sick would have paralysis, while the others escaped. In this respect the epidemic among the children was similar to the epidemic among the dogs.

There is some question as to the mode of transmission of the infection. There was every opportunity for the germs to be carried by direct contact. There was the close association of the Indians with the dogs. The people lived in tents and did not have much room. Their habits were not cleanly. There was ample chance for the infection to be transmitted by flies. In the fishing-camps there are always a great many flies. The salmon is hung on long poles over fires to dry and be smoked. The refuse from the fish is often thrown on the beach, where it is partly eaten by the dogs and partly scattered along the shore and allowed to rot. The odor of fish draws swarms of flies. The flies which are more prevalent are a large fly known as the moose-fly, a medium-sized fly about the size and similar to the stable-fly, and the ordinary house-fly. The house-fly is not indigenous to central Alaska. It has been imported by the white men from the United States.

There are several facts which point toward transmission by the bites of flies as the usual means of infection. The disease has been much more prevalent where flies were most abundant. All the cases were contracted at or near the fish-camps. There were other Indians who did not live at the fish-camps. They did not contract the disease. There were not many flies where there was no fish.

Something more than direct contact appears to be needed to bring infection. There was the case of one woman who died from the disease after visiting the fishing-camps and the camp where the mail dogs were cared for. She had with her her child of 2 years. The child escaped the infection, though of a susceptible age. If direct contact with an infected person were apt to give infection it had ample chance to become infected by its mother. These persons stopped only a short time at the fishing-camps and were not closely associated with the Indians there. They had a tent of their own in which they lived.

A great many dogs owned by white persons had distemper. None of the white persons became infected with epidemic poliomyelitis. They kept their dogs chained up away from their dwellings. They had few flies about. The people of the town on Tanana and the garrison near by were particular in the care of their houses and in the care of their animals. Their houses

Fig. 2.—Same dog attempting to walk.

were screened. It may have been that they escaped the disease because they were protected against the bites of flies, or, perhaps, because they were more cleanly, and were less closely associated with their dogs.

One reason for belief that the transmission may be through flies is that the spread of the disease is promptly checked by the frosts. When the flies go the disease stops. It has long been known that distemper does not spread after the cold weather sets in. In this respect there is an analogy between distemper and yellow fever.

The study of this epidemic is incomplete. There was no bacteriologic study made of the virus. There was no

comparative study of the spinal cords of animals and of human subjects which succumbed to the disease. There was no transfer of the virus from infected human subjects to unprotected young dogs, nor were susceptible animals, such as monkeys, inoculated from infected dogs.

It is hoped that in some future epidemic there may be opportunity for the pursuit of these investigations. This epidemic has passed over. The Alaska winter has set in and there is little hope for further study along this line or fear of spread of the epidemic.

It is believed that the experience in this small epidemic will be of value in the study of other epidemics. The fact that the disease is more prevalent in rural communities where more dogs are kept is significant. The theory that the disease is common to dogs and human beings fits so well with the experiences of epidemics which have taken place in different parts of the United States that it is well worth consideration. There is also the possibility that other domestic animals, as horses or cattle, may have the same disease. Its transmission by insects may not be confined to the horse-fly. It may be carried from one individual to another by means of vermin. Many of the persons afflicted in this epidemic were infested. It is quite probable that there are several modes of transmission. However that may be, this experience is sufficiently suggestive to be a warning to persons who live in rural communities to be careful to keep their houses screened and to see that their children do not become too intimate with young dogs which may have distemper.

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## TRICHINOSIS

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### SYMPTOMATOLOGY AND CONSIDERATION OF CASES

The epidemic seen by us consisted of ten cases, all of the affected persons being Italians. It was caused by the ingestion of infected and insufficiently cooked pork, obtained from two local butchers. Of the ten persons, eight, who consumed the pork from one source, recovered; two, who consumed the pork from the other source, died. In general, the symptoms were those common to this disease, namely:

1. Gastro-intestinal — vomiting and severe purging shortly after the ingestion of the infected meat.
2. Continuous fever, moderately elevated; pulse and respirations but slightly affected (Fig. 1).
3. Edema of the face, especially of the eyelids.
4. Muscular pain, sensitiveness, rigidity and contractures.
5. Headache, loss of patellar reflex and sometimes, also, loss of the Achilles tendon reflex; Kernig's sign was almost invariably present.

No enlargement of spleen was found in any case, the diazo reaction was positive and an excised piece of the biceps near its tendinous attachment showed the presence of numerous trichinae (Fig. 2).

There was marked leukocytosis and tremendous eosinophilia, also marked asthenia and profuse perspiration. An additional symptom, heretofore undescribed, which was present in both the fatal cases, was the marked dilatation of the pupils. This sign was present from the beginning of the disease.

Among the first eight patients who recovered, were four children between the ages of 3½ and 12. These children suffered only slightly from the disease. At no time were they confined to bed. They all had swelling of the face, particularly of the eyelids, and weakness in the limbs. One child, aged 8, suffered from marked prostration, so that locomotion was very difficult. This patient also had a moderate rise of temperature and marked pains in the muscles. The leukocyte count in these children went up as high as 75,200, and the eosinophils ranged from 60 to 79. All symptoms disappeared, however, at the end of three weeks, and recovery apparently was complete. Nine months after recovery the children still show no muscular pain, tenderness or other symptom of the disease, which, as observed in our cases and in accordance with the observations of others (Rupprecht,[1] Kratz,[2] Mosler,[3] Wortabet,[4] etc.), is mild in children. The reasons for this have been given as (1) weakness of stomach juices, hence interference with the liberation of encapsulated trichinae; (2) extrusion of large undigested particles of meat with the frequent bowel movement (Mosler and Peiper[5]); (3) shortness of the intestinal tract (Virchow[6]).

These explanations seem to us speculative and not at all conclusive. A more plausible explanation may be found in the fact that children eat a smaller quantity of the infected meat and hence ingest a smaller number of parasites. That the number of parasites ingested is in direct proportion to the severity of the infection has been established beyond dispute by numerous animal experimentations. To corroborate this fact we performed the following experiments:

Jan. 14, 1913, we removed from one of our patients, who subsequently died, a small piece of the biceps muscle, near its tendinous attachment. A piece of this muscle, immersed in saline and squeezed between a slide and cover-glass, showed, microscopically, numerous living trichinae, both within and without the muscle fibers (Fig. 2). We fed a rabbit with 2 gm. of this muscle. The rabbit did not show the slightest symptom of trichinosis. It did show an increase in eosinophils to 23 per cent., and later to 39 per cent. Our result with white rats was similar to that with the rabbit. At no time could we discover trichinae in the feces of these animals, even in repeated examinations. Furthermore, in our epidemic, a man and a woman, who ate the improperly cooked infected pork, apparently escaped scot-free (their blood was not examined). Certainly no claim can be made for their apparent immunity on the ground of anatomic or physiologic variations from the rest of the participators in the feast. It would therefore appear to us that the quantity of meat ingested is the deciding factor in these cases as well as in children.

We were never able to discover the parasite in the feces of these patients, though Dr. Henry Joachim diligently and repeatedly examined the feces at a time when parasites were undoubtedly present in the intestinal tract, and embryos were discharged by the thou-

1. Rupprecht, R.: Die Trichinenkrankheit im Spiegel der Hettstädter Endemie betrachtet, Hettstädt, 1864.
2. Kratz, F.: Die Trichinenepidemie zu Hedersleben, Leipsic, 1866; Vorläufiger Bericht über die Trichinenepidemie in Hedersleben, Berl. klin. Wchnschr., 1865, No. 52 p. 509.
3. Mosler, F.: Helminthologische Notizen über eine Trichinenepidemie aus der Jahre 1849, Virchow's Arch. f. path. Anat., 1865, xxxiii, 414; Zur Enstehung der Trichinenendemien, Virchows Arch. f. path. Anat., 1865, xxxiii, 422.
4. Wortabet, John: Eine Trichinenepidemie am Jordan, Virchow's Arch. f. path. Anat., 1881, lxxxiii, 553.
5. Mosler and Peiper, E.: Tierische Parasiten in Nothnagel's specielle Pathologie und Therapie, 1894, vi.
6. Virchow, Rudolph: Ueber Trichina spiralis, Virchow's Arch. f. path. Anat., 1860, xviii, 330.

sand from the pregnant uteri of the trichinae. And yet, why could we find no parasites, dead or living, in the feces? We are fully aware that Hoyberg,[7] Chatin[8] and others believe that the parasites are discharged, living, in the feces and constitute a factor in the spread of the disease, but this is certainly contrary to our experience. We are inclined to believe with Gerfontaine, Askanazy,[9] Romanowitch,[10] Graham,[11] Frothingham,[12] Stäubli[13] and others, that the female parasite does not discharge its young into the lumen of the intestine, but bores under and lifts up the epithelium of the villi and of the crypts of Lieberkühn and discharges its young in the membrana propria. These authors believe that the embryos are thus deposited direct in lymph-spaces or central lacteals. It is only in exceptional cases that embryos are discharged in the lumen of the intestines. The male trichinae die soon after copulation. Since we failed to find either living or dead trichinae in the feces of our patients or in those of the experimental animals, we agree with Fiedler[14] that the dead trichinae must be dissolved in the small intestine.

One of the patients, aged 21, nursed an infant throughout her entire illness until she became incapacitated just prior to the fatal issue. The infant remained perfectly well. Unfortunately, no examination was made of the mother's milk for trichinae or of the infant's blood for eosinophils. Yet as far as the ultimate result is concerned, it would appear that trichinae are most probably not found in the mother's milk, or, if present, are not in sufficient number to endanger the life of the suckling babe.

### TRICHINAE IN CEREBROSPINAL FLUID

That the muscular symptoms are due both to the toxemia of the parasite and to the mechanical lodgment of the worm in the muscle is too well known to discuss. That the nervous symptoms may also be due to this combination is a debated point. To decide this question, we made a lumbar puncture, Jan. 22, 1913, on the patient last mentioned.

She was admitted to the Kings County Hospital, Jan. 8, 1913, having been sick for about two weeks prior to her admission. The cerebrospinal fluid obtained, 40 c.c., came out under moderate pressure, and, on standing, showed a slight grevish-white sediment and the usual trace of albumin. Fehling's solution was not reduced. The centrifugalized sediment placed on a slide showed, microscopically, a number of lymphocytes and young actively moving trichinae about 1 mm. in length. We found six parasites under the cover-glass in the first preparation. The cerebrospinal fluid has evidently no injurious or even inhibitory effect on the trichinae; for after keeping the cerebrospinal fluid for five days in the ice-chest, actively moving trichinae could still be found. This patient died Feb. 17, 1913.

We believe that trichinae have thus been demonstrated conclusively for the first time in the cerebrospinal fluid. As there is no direct communication between the general circulation and the subarachnoid space, the trichinae must have wandered out either from the general circulation or directly from the tissues. As examination for the parasite in the blood of this patient proved negative, however, and as the cerebrospinal fluid was withdrawn

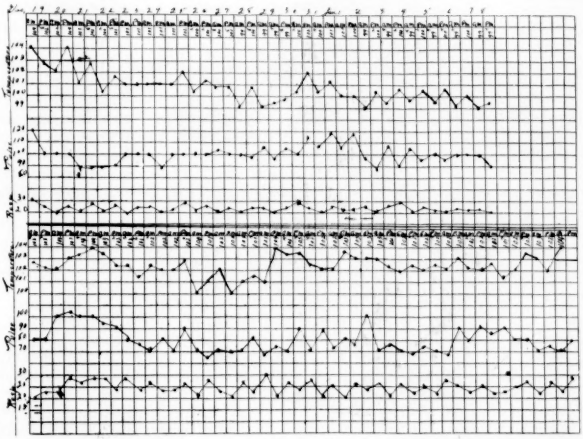

Fig. 1.—Chart showing temperature, pulse and respiration in Case 1 (upper portion) and Case 2 (lower portion).

the same day, it would be reasonable to suppose that the trichinae came from the nerve-tissue rather than from the circulating blood. May not the nervous symptoms be due, like the muscular symptoms, not only to the toxemia of the parasite, but also to the mechanical presence of the trichinae in the brain and cord? This brings us to the important consideration of the wandering of the trichinae in the body of the host. Let us first consider, however, the presence of the trichinae in the circulating blood.

In 1894 and 1895 Herrick and Janeway demonstrated the trichinae in the circulating blood. By their method blood is obtained from a vein and centrifugalized in a 3 per cent. acetic acid solution, and the sediment examined for trichinae. We employed this method, but neither we nor Dr. H. Joachim could find trichinae in the blood from our patients. These examinations were made from the second to the fourth week of the disease, in patients who showed numerous parasites in the muscles. There must have been hundreds of thousands of embryos con-

7. Hoyberg, H. M.: Beitrag zur Biologie der Trichine, Ztschr. f. Tiermed., 1907, ii, 209; Bilden sich bei der Trichinase toxische Stoffe? Ibid., 1907, x, 1.

8. Chatin, J.: Contribution à l'étude de la trichinose, Compt. rend. Acad. d. sc., 1881.

9. Askanazy, M.: Zur Lehre von der Trichinosis, Centralbl. f. Bakteriol., 1894, xv, 225.

10. Romanowitch, Recherches sur la trinchinose, Ann. de l'Inst. Pasteur, 1912, p. 351.

11. Graham, J. Y.: Beiträge zur Naturgeschichte der Trichina spiralis, Arch. f. mikr. Anat., 1897, l, 219.

12. Frothingham, Channing: A Contribution to the Knowledge of the Lesions Caused by the Trichina Spiralis in Man., Jour. Med. Research, 1906, xv, No. 3.

13. Stäubli, Carl: Beitrag zur Kenntnis der Verbreitungsart der Trichinenembryonen, Vrtljschr. d. naturf. Gesellsch. in Zurich, 1905, l, 163; Klinische und experimentelle Untersuchungen über Trichinosis, Verhandl. d. Cong. f. inn. Med., Wiesbaden, 1905, xxii, 553; Beitrag zum Nachweis von Parasiten im Blut, München. med. Wchnschr., 1905, No. 43.

14. Fiedler, A.: Weitere Mitteilungen über Trichinen, Arch. d. Heilk., 1864, v, 466; Zur Trichinenlehre, Deutsch. Arch. f. klin. Med., 1866, i, 67.

tinuously entering the muscle-tissue at this stage of the disease. If the circulating blood be the only path by which the embryos reach the muscle-tissue from the intestines, why did we not find them in the blood? The technic is simple and we withdrew sufficient blood, from 10 to 20 c.c. Furthermore, in an examination of the literature and by a comparison of the positive findings with the number of examinations made in suitable cases, we find that relatively few positive findings are reported. Is it not possible, nay, even probable, that Leuckart was far from wrong when he said that the trichinae in the body of the host wandered through the loose connective tissue? That the trichinae are capable of doing this is shown by their presence in the cerebrospinal fluid.

The cytologic elements of the blood showed the usual changes of the disease, namely, marked leukocytosis and marked eosinophilia. The total leukocyte count varied from 14,000 to 75,200; the eosinophils as high as 83 per cent. In one of the patients, aged 27, the eosinophils decreased to 5 per cent. just prior to the fatal issue.

Fig. 2.—Microscopic section from biceps showing trichinae within and without the muscle fiber.

Whether a falling eosinophilia is of any prognostic value we do not know.

The following blood-count in one of our patients is typical of the disease at about the sixth week.

| | |
|---|---|
| Total red cell-count | 2,800,000 |
| Anisocytosis | slight |
| Poikilocytosis | slight |
| Polychromatophilia | slight |
| Nucleated red cells | none |
| Hemoglobin | 50 per cent. |
| Total white cell-count | 28,400 |
| Polymorphonuclears | 51 per cent. |
| Eosinophils | 39 per cent. |
| Small lymphocytes | 4 per cent. |
| Large lymphocytes | 2 per cent. |
| Basophils | 4 per cent. |

A more or less marked secondary anemia was present in all the cases.

The urine was negative, with the exception of the presence of albumin and granular and hyaline casts in one of the fatal cases, and the reduction of Fehling's solution by the other. The diazo reaction, as previously remarked, was constantly positive.

We found that if one wishes to keep trichinae alive, it is best to place the excised muscle in normal physiologic saline solution and keep it in the ice-chest. At the end of three weeks, we found the trichinae well preserved and actively moving. How much longer they remained so, we do not know. We found that on gentle heating of the under surface of the slide on which a piece of muscle in saline solution has been crushed beneath a cover-glass, the trichinae will at once, if alive, exhibit their characteristic spiral motion, curling and uncurling themselves for a long time. The addition of saliva sets them in active motion. This, most probably, is due to the alkaline reaction of the saliva, for the addition of weak alkaline solutions, such as sodium and potassium hydroxid, produces the same result; whereas weak acid solutions have an opposite effect.

In paraffin or celloidin sections, the ordinary hematoxylin and eosin stains bring out the parasite very well. To demonstrate the parasite in fresh tissues or solutions, no stains are, as a rule, necessary. Law and Fullerbarn's direct method of staining is satisfactory, but unnecessarily complicated. After experimentation with numerous stains and methods, we devised the following simple technic:

On slide, make thin spread of crushed muscle supposed to contain the parasite and add 1 or 2 drops of Ziehl-Neelson carbolfuchsin. Cover with cover-glass and examine; the trichinae, if present, will be stained an intense red. If permanent preservation of the specimen be desired, rim the edge of the cover-glass with petrolatum or Canada balsam. This method is very simple and highly satisfactory.

### DIFFERENTIAL DIAGNOSIS

In our cases we had to exclude (1) nephritis, (2) typhoid fever, (3) meningitis, (4) muscular rheumatism.

1. The edema, the gastro-intestinal symptoms and secondary anemia suggested nephritis, but on examination of the urine that condition was at once excluded.

2. The muscular pains, the continuous moderately elevated temperature with low pulse-rate, the mental state, the marked weakness, with diazo positive suggested typhoid. The presence of a leukocytosis and eosinophilia (instead of the complete disappearance of eosinophils from the peripheral blood which occurs in typhoid patients), together with the absence both of the Widal reaction and enlarged spleen, excluded that condition.

3. The presence of the Kernig sign, the rigid neck, the mental symptoms, temperature, weakness and leukocytosis suggested cerebrospinal meningitis; but in meningitis we have with the positive Kernig, exaggerated knee-jerks, Achilles tendon reflex, and no eosinophilia.

4. The muscular pains suggested rheumatism; but in muscular rheumatism we have an absence of the signs of trichinosis, which were present in our cases. Wood, as far back as 1835, found trichinae in the muscle of a patient who died from rheumatism. Many other such findings are noted in the literature. Furthermore, Williams,[15] on examining five hundred and five bodies of persons who had died from other diseases than trichinosis, found trichinae in twenty-seven (5.34 per cent.), on microscopic examination of the muscle-tissue. These facts should teach us to excise a piece of muscle and examine, microscopically, for trichinae in all persistent

15. Williams, Herbert U.: The Frequency of Trichinosis in the United States, Jour. Med. Research, 1901, vi, 64.

and dubious cases of so-called "muscular rheumatism," with or without eosinophilia, for, in old cases, the eosinophilia is slight or entirely absent.

Of course, to differentiate trichinosis from any other condition, the examination of an excised piece of muscle will be final.

### PROGNOSIS

The death-rate from this disease varies a great deal, as in some epidemics it is unusually high; in others, practically *nil*. On the average, the mortality is about 5 per cent. In our cases the mortality was 20 per cent. In the epidemic at Hedersbeer, Kratz reports 101 deaths out of 337 cases — a mortality of 30 per cent. According to the statistics of Stiles and Hassall,[16] there were in Germany, from the years 1860 to 1880, 8,491 cases, with a mortality of 513 (6.04 per cent.), and in the same country, from 1881 to 1898, 6,326 cases, with a mortality of 318 (5.02 per cent.). In children, as already noted, this disease runs a mild course.

### NECROPSY FINDINGS

In the two fatal cases, Drs. Terry and Haller of the pathologic department of the Kings County Hospital, returned the following findings:

CASE 1.—Anthony G., aged 27, died in the fourth week of the disease. Pathologic diagnosis: Acute myositis, parenchymatous and fatty degeneration of the liver; acute diffuse nephritis; fragmentation of cardiac muscle; congestion of spleen; lobar pneumonia in base of right lung.

Trichinae were found in the diaphragm, in the rectus muscle and in those of the upper and lower extremities.

CASE 2.—Mary G., aged 21, died in the eighth week of the disease. Pathologic diagnosis: Pleurisy with effusion; fatty degeneration of liver; amyloid degeneration of kidneys; congestion of spleen.

Trichinae were found in the voluntary muscles throughout the body. Examination of brain and cord was not permitted in either case.

### THERAPEUTICS

In the treatment of our cases we did not employ atoxyl or arsacetin, because from a review of the literature we learned that these drugs are useless in this disease. In the early stage we used cathartics and glycerin in large quantities (150 gm. per day) as recommended by G. Merkel.[17] No striking results could be seen from this treatment. The use of colonic irrigations containing antihelminthics seems to us useless, for how could it be possible for the drug to reach the upper part of the small intestine? We have had no experience with benzin, as recommended by von Mossler. We have used the various intestinal antiseptics and antihelminthics with questionable benefit to the patient. If we bear in mind that these parasites burrow beneath the epithelium of the crypts and villi, that they discharge their young not in the lumen of the intestine, but in the tissue itself, it is hard to conceive how cathartics, glycerin, intestinal antiseptics, antihelminthics, etc., could do any good, except at the very onset of the disease, when, as a rule, the physician is not consulted.

Realizing the inefficiency of our therapy, we determined to try salvarsan and neosalvarsan in this disease, for we reasoned since it is beneficial in other parasitic diseases, it may possibly be of some benefit in this disease. Accordingly, we injected in the patients, J. R., 0.6 gm. salvarsan intravenously in the fifth week of the disease. This was only a moderately severe case. We could see no influence of the salvarsan. The blood-count in this patient will be found in the accompanying table.

TABLE OF BLOOD-COUNT IN TRICHINOSIS PATIENT J. R.

| Time | Total Cell-Count | | Percentages | | | |
|---|---|---|---|---|---|---|
| | Leukocytes | Red | Polymors. | Sm. Lymphos. | Eosinop. | Hb |
| Before injection..... | 18,400 | 5,800,000 | 36 | 25 | 39 | 78 |
| Same day after injection. | 13,900 | 5,200,000 | 49 | 19 | 32 | 93 |
| Twenty-four hours later. | 12,300 | 4,200,000 | 38 | 18 | 44 | 78 |
| One week later..... | 17,000 | 4,800,000 | 51 | 33 | 16 | 78 |

The patient made an uneventful recovery. All blood-cultures taken in these patients were sterile.

The second patient, who received 0.5 gm. of salvarsan intravenously, was severely ill from the beginning. She was in the fourth week of the disease, when she received 0.5 gm. of salvarsan. Eleven days after the injection of salvarsan she received neosalvarsan intramuscularly. After each injection pieces of muscle were removed and examined in the fresh state. Pieces of muscle were also removed before the injection of salvarsan and examined for trichinae.

We thought that after each salvarsan injection the trichinae in the muscle appeared to be swollen and less active. The trichinae in the cerebrospinal fluid, however, were very active. The subjective and objective condition of the patient grew progressively worse (See lower portion Fig. 1) and death ensued twelve days after the last injection of neosalvarsan. From our experience we do not believe that salvarsan is of any benefit in this disease. The rest of the treatment was purely symptomatic.

### PROPHYLAXIS

Since we can not influence the course of this disease therapeutically, we should strain every effort to prevent this disease. As its cause and pathogenesis are well known, prophylaxis ought to be comparatively easy. In general, prophylaxis should be directed against the spread of trichinosis among pigs, the prevention of the sale of infected meat and against the ingestion of raw or only partly cooked pork. We must bear in mind that trichinosis is most frequent among the pigs of America. Reliable statistics show that the infection among pigs varies from 0.86 per cent. to 10 per cent. or even higher in some localities (Türk and Lübeck). We know that much has been said for and against the government routine microscopic inspection of all pork. We are of the opinion that the good which would follow such inspection would more than justify the expense incurred, for hundreds of lives would be saved.

We believe that trichinosis should be placed under the head of reportable diseases, so that through warning thus given the further consumption of an infected carcass may be stopped, should cases be diagnosed early enough. We could thereby avoid large epidemics.

Of course the most efficient prophylaxis is the thorough cooking of all pork. Fiedler found that

16. Stiles, C. Wardell, and Hassall, Albert: Trichinosis in Germany, Bull. U. S. Dept. Agric., Bureau Animal Industry, 1901, No. 30, p. 211.

17. Merkel, G.: Behandlung der Trichinenkrankheit, in Penzdolt and Stintzing's Handbuch der speciellen Therapie innerer Krankheiten, Ed. 4, 1909, p. 353; Zur Behandlung der Trichinose beim Menschen, Deutsch. Arch. f. klin. Med., 1885, xxxvi, 357.

heating pork to 62 or 72 degrees destroyed all trichinae present.

CONCLUSIONS

1. Trichinae or embryos are not found in the feces, hence these cannot be used for diagnostic purposes nor are they a factor in the spread of the disease.
2. Intestinal antiseptics are futile in this disease.
3. Children either escape infection or when infected have the disease in a mild form because they eat only small amounts of the infected meat.
4. A child is not endangered by nursing from an infected mother.
5. For the first time living trichinae have been demonstrated in the cerebrospinal fluid *in vivo*.
6. In protracted and dubious cases of chronic muscular rheumatism it is advisable to examine a piece of muscle, microscopically, for trichinae.
7. Neither leukocytosis nor eosinophilia is an index of the severity of the disease.
8. The trichinae may wander into the tissues by boring through the fibrous connective tissues.
9. It is a mistake to rely for diagnostic purposes on the finding of trichinae in the blood, because such findings are rare.
10. A new and simple method of staining trichinae may be used.
11. Salvarsan is useless, as was shown in our cases.
12. Trichinosis should be made a reportable disease.
13. Government microscopic inspection of meat for domestic use should be instituted.

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## PROGNOSTIC VALUE OF SLIGHT OR TRANSIENT ALBUMINURIA

### WITH SPECIAL REFERENCE TO LIFE-INSURANCE EXAMINATIONS

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In view of the now well-established fact that infectious diseases are on the decrease and that the cardiovascular diseases show a corresponding increase, it follows that we have obviously a deep and growing concern in any sign or symptom that may antedate the establishment of a definite clinical picture of one of these latter diseases. It is of peculiar interest to us that insurance medicine has taken a more advanced position than clinical medicine in the consideration of those indications which precede the well-defined clinical picture. Only recently has general medicine, in its true and higher scope as a preventive science, given proper heed to the indications which precede active disease, with which alone it concerned itself a few years ago as a strictly curative agent.

Then medicine did not reckon with the case until the cough, fever and weakness demanded attention. Now medical school-inspection with open-air schools, playgrounds, visiting nurses and its other agencies, reckons with the family history, the exposure to contagion, the build, the habits, etc., and remedies the condition of which the clinical disease is only the closing scene. Medicine was then concerned only when headache, nausea, shortness of breath, or dropsy, caused the nephritic to seek his physician. Now the man submits to a change in diet, a cure of pyorrhea, a correction of intestinal decomposition, a drainage of the gall-bladder, etc., the indications being detected at one of the routine semiannual physical examinations at the hands of his medical adviser, and he avoids or postpones the necessity of treatment for renal insufficiency, myocarditis, or cerebral hemorrhage.

Insurance medicine has for years more or less roughly covered this position and heeded the indications which were revealed at the examination of apparently healthy, vigorous individuals. Each advance has been delayed, however, by custom and precedence. Many insurance officials can remember when the value of even the most superficial urinalysis was regarded with extreme suspicion. Few of us can remember, but we can all picture, the consternation on the part of the agency force and the half-disapproving acquiescence of the executives, when urinalysis first became a requirement.

In June, 1902, at Atlantic City, the first presentation of the value of blood-pressure estimation in insurance examinations was made by the author. It has taken just ten years to establish blood-pressure as a valued requirement in, I think, every company in this country with one notable exception. Ten years, however, is a short time and the rapid acceptance of this clinical sign is a tribute to the progressiveness and scientific equipment of our medical departments. Insurance companies have introduced and taught this sign to a majority of the practitioners of this country.

In attempting to define the prognostic value of slight or transient albuminuria, I would lay down two premises: (1) if a reliable history and thorough examination were obtainable in insurance work, the test for albumin might frequently be held negligible; (2) inasmuch as a reliable history and a thorough examination are impossible in insurance work, the test for albumin becomes the best single guide to insurability, in applicants over 40. These statements are not paradoxical.

There are no insurance statistics which are based on complete or reliable medical examinations, and probably none will ever be available. A thorough history and physical examination is only obtainable in the larger cities; it costs from $20 to $50, and requires much more time than any applicant could be induced to give. The only records of complete and thorough clinical work are found in a few hospitals related to the better medical schools, or devoted to research, or in the private records of the best trained internists.

The records of this grade of clinical work show that traces of albumin are demonstrable in association with nearly any departure from health, and under many conditions which are purely physiologic. Most diseases are accompanied by some toxemia, and most toxemias produce sufficient renal irritation to cause a transudation of albumin. In young people, particularly, many physiologic variations may produce albumin; for example, a game of tennis, any severe athletic exercise; certain foods, for example, asparagus; recent alcoholic indulgence, etc. In older men in whom albuminuria can be demonstrated, a complete clinical examination practically always reveals some other sign or symptom of disease, for example, headache, nausea, increased blood-pressure, thickened arteries, leukocytosis, anemia, fever, etc. Conversely, when traces of albumin can be detected, and no other sign or symptom can be demonstrated by the most thorough investigation, experience shows that they may be considered negligible. This condition, or the much-abused term, physiologic albuminuria, is practically confined to the second, third and fourth decades.

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Cabot sums up his personal experience and the experience of the Massachusetts General Hospital as follows:

> In the absence of other signs or symptoms of disease, albuminuria is rarely of importance. Large quantities of albumin are in my experience never found without other evidences of disease. Small quantities without other evidence, when occurring at or near adolescence, are practically negligible. In later life they are practically always accompanied by other evidence of disease (that is, pyuria, fever, raised blood-pressure, headaches, etc.).

Other experienced clinicians agree in a general way with this attitude. That the deductions of life-insurance medical directors should frequently differ from those of internists is to be expected, as the basis of their judgment is very different. An internist does not venture a diagnosis or a prognosis until he has completed an exhaustive study of the case, perhaps having it under observation many days and having before him complete clinical analyses. A medical director has the results of a fifteen-minute examination, often at incompetent hands; he has the opposition of the applicant, instead of the help of the patient in detailing symptoms; and the only thorough clinical work which he can obtain is from a chemical and microscopic examination of a several-days-old 3-ounce specimen of urine.

The results of this analysis of the 3-ounce three-days-old specimen immediately takes on a far greater significance than would be vouchsafed by an internist. The internist has before him such a wealth of material, and is so sure of the accuracy of his methods and his findings that he can well afford to minimize the indications of slight variations in the albumin content of the urine. The insurance man can be sure of only one thing, and that is, that in a large percentage of cases the history will be misleading and incomplete and the examination hurried and superficial. He can, on the other hand, be sure of a thorough and delicate test for albumin in the urine passed by the applicant, and his action on a home-office finding of albumin in a case examined and recommended after a fifteen-minute observation by the average general practitioner, necessarily would frequently differ from an action that might properly be taken after a week's study of the same case by a trained internist. One test alone, the phenolsulphonephthalein test of Geraghty, would throw more light on the question of renal sufficiency than any amount of chemical and microscopic urinalysis.

I may interpolate here that, clinically, the presence of a few casts is regarded as of considerable less importance than the presence of albumin.

In insurance work we must profit as far as may be by the results of the best clinical work, but we must modify those clinical conclusions to meet the exigencies of our own specialty. Granting without argument the growing clinical opinion that in the absence of any other indication of disease the presence of traces of albumin may be largely discounted, a similar attitude toward albuminuria in insurance work would spell disaster. We may, however, still recognize the correctness of clinical data, but modify their indication when used as a basis for action as a guide to insurability. Therefore, although from the internist's point of view, an albuminuria *may* be negligible when thorough work has excluded all the symptoms and signs of disease, as insurance men, we must give most weight to Cabot's supplementary clause, that large quantities of albumin are never present without other signs or symptoms of disease, and that in men over 40, even traces of albumin are seldom present without other discoverable indications of disease. Therefore, although we cannot in insurance work profit largely from the first theorem, we can draw valuable assistance from the second: that albumin in large quantities always accompanies other indications of disease, and in men over 40, even in traces, is usually associated with disease. This clinical opinion we can translate into a ruling for insurance selection in the statement that large quantities of albumin at any age indicate an impairment; traces in applicants over 40 usually indicate an impairment.

When we further recognize the increasing incidence of cardiovascular and renal diseases after 40 as a factor in general mortality statistics, and especially in insurance statistics, and that traces of albumin in men over 40 are indicative of beginning cardiovascular renal disease more than of any other pathologic entity, we must appreciate the importance of a method which will permit us to say that this applicant is or is not passing albumin with a workable quantitative estimate. The fact that the local examiner reports albumin "absent" is only slightly more reliable as a guide to the presence or absence of albuminuria than his assurance, before the use of the sphygmomanometer, that the pulse-tension was normal. If 25 per cent. of the cases of albuminuria are reported with positive findings by the average examiner of an insurance company, it is better than experience shows us we should expect.

A full examination of an applicant by an expert internist will never be practical, but it is practical to have an expert urinalysis on every applicant, when it may be desired. Companies which require home-office urinalysis where the amount applied for is $25,000 or over, find no difficulty in obtaining compliance. Companies which require it in applicants for amounts of or over $10,000 or $5,000 obtain it with equal ease. Companies which desire it in applicants over 40 or 45, or in all cases, can have it by asking for it.

To repeat, in view of the following facts: the increasing incidence of the cardiovascular renal diseases; the almost constant association of these diseases with albuminuria; the clinical experience that albumin even in small amount in men over 40 means that other signs or symptoms of disease are discoverable; that only a small proportion of general practitioners will detect albumin in traces, and many will overlook it in large quantities, or make no urinalysis at all; that authentic, well-preserved specimens can readily be submitted to expert analysis—it would seem that the day is not far distant when the urinalysis portion of an insurance examination, at least, will be accurate, and as far as chemical and microscopic examination of the urine may aid us, we shall act intelligently and not blindly.

This does not necessarily mean that we shall reject or consider impaired every case which shows a trace of aibumin. We ask if the pulse is regular, but we do not therefore necessarily consider a robust young man of 20 impaired, whose heart has an extra systole now and then during an examination. If the man was over 50, even an occasional irregularity would make us rightly suspicious of myocarditis. But, because we now and then approve an irregular or a rapid heart, shall we therefore give up an examination of the pulse? We will frequently accept an otherwise robust young man with a slight albuminuria, but should we therefore forego the opportunity to reject the man of 50 with slight albuminuria and cylindruria who probably has interstitial nephritis?

It should not be misunderstood that the opinion is here advanced that in insurance medicine albuminuria at any age is not worthy the most careful consideration. Frequently and at all ages it has instigated further investigation which demonstrated serious impairment, either true nephritis, or in some cases, obscure tuberculosis, serious gastro-intestinal disturbance, etc. Our knowledge of this subject to-day is most obscure in comparison with the knowledge that we may one day expect to have; but there have been definite advances already both in methods and in the interpretation of findings, and we may properly attempt to redefine our position from time to time, bringing it as far as possible in accord with present knowledge.

Where it may not be considered practical to have a home-office urinalysis, much can be done to improve the quality of the local examiner's work. The short instructions on urinalysis recommended by the Association of Life-Insurance Medical Directors, is most helpful. The inability of the average practitioner to find albumin by Heller's and the heat and acid tests, is, however, subject to daily and hourly demonstration. Heller's test, particularly, while well suited for the laboratory expert, is most misleading with the careless, hurried work of the general practitioner. The care, the time, the light, are wanting, and the fine white line which could have been distinguished after half an hour's wait in a conical glass, in a bright light, by trained eyes, is overlooked in the back office after a hurried glance through a soiled test-tube by unaccustomed eyes, confused by the dark pigment-line or the cloud of urates. No wonder we feel justified in a prompt rejection or a substandard rating in all cases in which albumin is reported by the examiner; positive findings are limited to the grosser quantities and the advanced cases.

It is difficult to give a clear idea of the quantity of albumin shown by different tests which corresponds to our individual idea of "trace" and other vague terms in common use. While each will necessarily in the absence of definite quantitative tests use his own interpretation of these terms, it will help to explain the position taken in this article to define the terms we use in routine work. "Faint trace" is applied to those tests by Ulrich's method which show a very thin white line at point of contact. In these cases the albumin is probably present in dilution of 1 : 1,000 of urine and up to 1 : 2,000. With average urine of this grade of albuminuria, Heller's test would be negative. The ordinarily applied saline heat and acid test would show "suggestive" to "positive." Albuminurias of this type are common in urine from women and result from contamination, and also occur in cases of mild urethritis or cystitis; sometimes they occur as a physiologic reaction in young men, but in older men are often associated with an occasional hyaline or granular cast, increased blood-pressure, etc. "Trace" is a term we use for a positive test by heat and acid, and a threshold test by Heller's; + we use for a positive reaction by all three tests — Ulrich's, heat and acid, and Heller's; and + + and + + + to indicate the grosser quantities. It would be most helpful if a more uniform vocabulary than is recognized at present could come into general usage. We find that our notation of "faint trace" and "trace" usually correspond to "absent" by local examiners, and our + corresponds to "trace" by local examiners.

I cannot too strongly recommend Ulrich's modification of the saline-acid-heat test. It is simple, delicate, and gives the positive reaction immediately. An acidulated saturated solution of common salt is the only reagent required. The method is simplicity itself. Boil in a clean test-tube several cubic centimeters of a saturated and filtered saline solution, acidulated to 2 per cent. with acetic acid. Overlay this with the urine, and if albumin is present even in small traces, a white line is readily seen at point of contact. The relative delicacy of this test in the hands of the average examiner is indicated by this report which we now frequently receive: positive by Ulrich's saline test, absent by Heller's. A home-office examination of the same specimen usually shows albumin distinct by all tests.

The result of an analysis of some recent urinalyses made at our home office lends further evidence to the general correctness of the clinical opinion as to the relative significance of traces of albumin. We have come to feel that at all ages, but particularly after 45, positive knowledge as to the presence of albuminuria is a most valuable aid in medical selection, both when appearing as the only impairment and when associated with other impairments in family or personal history, physical examination, or habits, and we further feel that the only positive way to obtain this information is to have the urine examined at the home office. We believe that the recommendation of a more delicate test, such as Ulrich's, for use by examiners, would give us this knowledge in a larger proportion of cases than we obtain it at present.

I quote a reply from Ulrich in answer to a request from me for the relative delicacy of his test as compared to Heller's.

> I wish to state that all contact tests owe their delicacy partly to the ability to bring out the "ring" of contact. In my test, in contradistinction to all others, only one ring can appear at the point of contact, and that is albumin or globulin. With other tests, specially that of Heller, other rings such as the pigment and the uric acid contents may be so close to the point of contact that they might obscure the fine ring of acid-albumin. I made some experiments to compare the two tests. My urine, absolutely free from demonstrable albumin by either test, and my own blood-serum were mixed in 1:500, 1:1,000, 1:1,500, 1:2,000. Tests were made in ordinary test-tubes for my test, and in a conical glass, according to the Heller technic. With my test, a marked ring was found in these dilutions up to 1:1,500. With Heller's test, I was uncertain as to a ring after the 1:500 dilution was passed. There was quite a pigment ring in my urine, as also a uric-acid ring. The specific gravity of urine was 1.023. The text-books claim a delicacy for the Heller test of 1:2,000 up to 1:7,000 (Emerson, "Clinical Diagnosis," Ed. 3, 1911). I do not see how this can be unless distilled water was used as a diluent. With distilled water and extremely careful technic, also very small diameter of tubes, I can get a threshold test of 1:10,000 with my test. I think, however, that the method you suggest, using urine as a diluent, is far more practical for clinical values.

Even granting that he may be prejudiced in favor of his own test, our own experiments confirm this position, and I think no one has questioned the greater delicacy of his test. The only criticism which has been offered is that this test is too delicate. As far as its use in the hands of examiners is concerned, I do not think we need fear too delicate a test.

## CONCLUSIONS

1. In applicants over 40 or 45 it is of great importance to determine the presence or absence of a slight albuminuria.

2. The slighter albuminurias are almost constantly overlooked by the average examiner.

3. Apparently, the only way to obtain this very vital information is to have the urinalysis made at the home office, although an improvement may be expected from the recommendation to the examiners of a more delicate and simpler test, such as Ulrich's test.

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## INTERLOBAR EMPYEMA

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Interlobar empyema, or the occurrence of a collection of purulent fluid in the spaces between the lobes of the lungs, is a rare sequel of pneumonia, and has been given little or no consideration in most text-books. The ordinary form of empyema is more common and more readily recognized. Interlobar empyema may occur more commonly than is believed, since the disease may be unrecognized, and may terminate by rupture into a bronchus with discharge of the contents of the cavity and, later, by resolution, the condition then being considered to have been an abscess of the lung. Interlobar empyema is most likely to occur in the catarrhal pneumonias, which are located in or near the interlobar spaces, although it may occur in bronchopneumonia. It is due to the infection of the pleura which is present in every case of pneumonia to a greater or less degree.

Probably most practitioners are not familiar with the location of the interlobar spaces, and it would be advisable for clinicians to accustom themselves to locate the boundaries of the lobes. The upper lobe of the right lung is separated from the lower by a fissure which starts at the spinal column on a level with the spine of the scapula, and runs outward, downward and forward to the fourth rib in the midaxillary line, where it divides into two secondary fissures. The superior or uppermost of the secondary fissures runs almost horizontally forward and reaches the anterior border of the lung at about the level of the fourth cartilage. The lower fissure passes downward and slightly forward to the lower border of the lung in the mammillary line. The middle lobe of the right lung lies between these two secondary fissures. The left lung has but two lobes, and the fissure, which begins and extends as in the right lung, does not bifurcate in the axilla, but passes downward and forward to end at the sixth rib in the left mammillary line.

The late Dr. John H. Musser called attention to the occurrence of interlobar empyema and advised a careful physical examination over the interlobar septa. Were this advice followed more frequently, undoubtedly the true cause of many cases of supposed unresolved pneumonia or supposed abscess of the lung would be discovered.

The symptoms are similar to those of ordinary empyema. There is a continuation of fever after the time at which the crisis should have occurred, or a return of fever after the crisis has occurred. The temperature is likely to be intermittent, and may range as high as 103 or 104 F.; but is more often below 101. Cough continues, and after the resolution of the pneumonia, it is usually dry and unproductive. Sweating, debility and anemia are present, and often albuminuria may become marked.

The physical signs of this condition are not so marked as those of massive empyema, since in the former the collection of pus is smaller, may be situated within the interlobar space and may be some distance from the chest wall. Inspection will usually be negative so far as bulging of the interspace, enlargement of the affected side of the thorax, or limitation of respiratory excursion is concerned. Palpation will probably elicit lessened fremitus over the affected area. Percussion will show impairment of the normal resonant note, the area of impairment depending on the size of the purulent collection and its distance from the chest wall. Auscultation will show an absence of breath-sounds over the area which is involved.

The diagnosis should be confirmed in each case by paracentesis.

The treatment of interlobar empyema is by a resection of a portion of one or more of the overlying ribs and the introduction of a drainage-tube.

In the first of the two cases that I shall report, two interesting conditions were present, but I am inclined to regard these as unusual phenomena. The occurrence of hiccough in this patient we believed to be due to pressure from the empyema, causing irritation of the phrenic nerve, which passes down the posterior wall of the thorax. Galvanic electricity, as stated in the history of the case, entirely stopped this most distressing symptom after the second application.

The marked irregularity of the heart in this case, without enlargement of this organ, and with no signs of failure of compensation, we believe, was caused by irritation of the pneumogastric nerve. The fact that the irregularity ceased the instant the empyema was opened confirms this view. In addition there was no evidence of cardiac weakness at any time during the convalescence, which indicates that the irregularity was due to a disturbance of the nervous mechanism, and not to any affection of the myocardium.

CASE 1.—H. P. S., aged 42, a general manager, has been living in Texas for the last seven or eight years. He states that his health was particularly good during the autumn of 1911. He has always been of a very nervous temperament, has paid much attention to his gastric sensations, and has always restricted his diet. He was operated on for appendicitis about five years ago, at which time a catarrhal appendix was removed by Dr. R. H. Harte.

The patient arrived in Philadelphia Dec. 22, 1911, about 3 p. m. and in the afternoon went out. The thermometer that day registered about 45 F., but the weather was extremely murky and there was a drizzle of rain in the afternoon. I was called to see him that evening, as he felt a little feverish and had pain in his chest. His temperature was 99 2/5 F.; his throat was clear, but he complained of dull pain in the fifth interspace to the right of the sternum. There was no pain on inspiration and very little cough. An examination of his chest revealed no râles and no friction sounds. The next day his temperature was 99 2/5, and he still complained of pain in the same location; but nothing further could be discovered by physical examination. December 24, his temperature was about 100, but the physical signs continued to be negative.

December 25, his temperature at 11 a. m. was 103. At this time the respirations were 22 per minute. The white corpuscles this day numbered 16,000, and a Widal taken at this time was reported later as being negative. For the first time very distict bronchial breathing was heard over the right base anteriorly, with a friction sound. The next day the signs of consolidation were decidedly more marked.

December 27, the pulse, which had been regular and of good volume, suddenly became irregular. There was no dyspnea or cyanosis, but the breathing varied from 38 to 44 per minute. In spite of digitalis the radial pulse continued to be very irregular and intermittent. There were 84 to 90

pulsations present in the radial artery, but at the apex, 112 to 140. The temperature continued to range from 102 to 103 until December 29, or the eighth day, when it declined to 98 4/5. The bronchial breathing continued over the area of consolidation, but the chest posteriorly was clear. The temperature continued irregular, going from 98 4/5 to 101 1/2, and at times the patient would feel a little chilly, but there were no profuse sweats.

The leukocytes on December 31 numbered 16,000; January 1, 12,500; January 2, 11,000, and the case at this time looked like one of slowly resolving pneumonia. January 3 the leukocytes numbered 15,900, and they continued between 15,000 and 19,000 for the following eight days.

January 4 and 5, the patient hiccoughed a few times. After January 6, the hiccoughing became more persistent in spite of compound spirit of ether, spirit of chloroform, milk of magnesia and the bromids, and the only remedy which at all controlled the spasms was morphin. Mustard plasters were applied over the right base anteriorly, as well as dry cups, and freezing the right phrenic nerve in the neck was also tried without avail. January 11, galvanism to the right phrenic was administered. This apparently did not affect the hiccoughs, but it was reapplied the next day, January 12.

A few hours after the second application the hiccoughs ceased, and did not return. During this period of more or less continuous fever, Dr. J. H. Musser and I went over the patient's chest daily in the expectation of finding an abscess or an empyema. The physical signs were as follows: The area of consolidation at the right base anteriorly, gradually cleared up, so that by January 3 the region was clear except that there was anteriorly a triangular area of dulness extending from the third interspace to the upper border of the liver and from the right border of the sternum downward and outward to a point at the upper border of the liver dulness about 1¼ inches to the right of the right border of the sternum. The breathing over this area was bronchial. The heart-sounds were not distant or muffled, and the apex was not displaced, although irregularity of the heart's action continued, so that pericarditis was excluded.

January 10 the breath-sounds at the right base posteriorly were very distant and afterward vocal and tactile fremitus were reduced. At that time two exploratory punctures were made in this region; one in the seventh interspace, near the angle of the scapula, the other in the ninth interspace. They were both unproductive. January 11 an area of dulness and distant bronchial breathing was found, oval in shape, with the center at the inner border of the scapula, extending 1½ inches externally and internally from this border, and from the angle to the spine of the scapula. On January 12 Dr. R. H. Harte made an exploratory puncture in the fifth interspace posteriorly near the center of this area. He obtained about a dram of bloody fluid, which on microscopic examination was found to contain many pus-cells. Next day, under ether anesthesia, he resected 1½ inches of the fourth rib and evacuated about 3 ounces of pus and a considerable amount of tough gelatinous slough. The cavity extended about 2½ inches inward and anteriorly toward the center of the thorax. Two large rubber drainage-tubes were inserted and the patient kept in the dorsal position as much as possible. The pulse, which had continued irregular and intermittent up to the time of the administration of the anesthetic, became regular and continued so from that time on.

The temperature continued between 101 and 100 for two days. On the 15th, 16th and 17th it gradually declined, becoming normal on the 17th. It continued somewhat irregular, with occasional rises until January 21. On the 22d there was another short rise, with an increase of the number of leukocytes, and it was found that the drainage-tubes were blocked with lymph. After these had been cleared the temperature again became normal and continued so from January 25 to February 1. From February 1 to February 11 the temperature was again irregular, being 98 or 98 2/5 in the morning, and 99 4/5 to 100 2/5 in the evening. There was during this time a considerable amount of thin purulent discharge from the wound.

Dr. Harte began the use of bismuth paste about February 7, and by February 11 the temperature had become normal and remained so after this time. The injections of bismuth paste were continued twice a week, and about 1 dram of the paste was used at each injection. Probably half of this was found on the dressings when the wound was dressed the following day. About March 1, the patient noticed pigmentation in the gum around one or two of his teeth, and on examination a blue-black granular deposit was found at the margin of the gum, similar to that seen in chronic lead intoxication. The blood was examined by Dr. C. Y. White who reported that there was no basic granulation of the red corpuscles, and it was, therefore, assumed that the pigment deposited in the gum was due to bismuth sulphid. The paste used was composed of 50 per cent. bismuth subnitrate in petrolatum. The line on the gums gradually disappeared. March 16 the patient was removed to Atlantic City, as the wound was discharging very little, and the sinus gradually healed, but did not entirely close until May 23. Since the evacuation of the interlobar empyema there has been no return of the irregularity of the pulse, at no time has there been evidence of any myocardial weakness and active exercise has not caused dyspnea or discomfort.

The second case is of interest, owing to the occurrence of pneumonia and interlobar empyema in the course of a typical attack of typhoid fever.

CASE 2.—The patient, a native of Poland, aged 22, was admitted to the wards of the Episcopal Hospital, April 9, 1913, with a temperature of 105 4/5, respirations 32, and pulse 108. His lungs showed no consolidation, but there were many fine moist rales at both bases. There were numerous typical rose spots. The spleen was distinctly palpable. April 10, the Widal was reported positive. The leukocytes on April 10 were reported as numbering 13,200; on the 12th, 6,400.

The temperature continued high, ranging between 103 and 104½ until April 26, when it began to decline, going down to 100 and rising to 103½. May 4 the temperature rose to 106 3/5 and on the 5th had declined to 99¾. It rose again on the 7th to 105 and declined to 99 at noon of the following day. The temperature continued intermittent with sharp rises and abrupt declines up to the time of operation on May 22. The leukocytes on April 19 were 12,000; April 29, 24,000; April 30, 19,000; May 1, 17,200; May 4, 14,320; May 6, 15,680; May 13, 30,400; May 14, 29,600; May 17, 40,080.

April 22 the condition of the patient was good, with the exception of high temperature, and the chest was clear. May 4, after the rise in temperature to 105 3/5, numerous moist rales were heard over both lungs. There was no impairment of resonance. May 8 very numerous moist rales were heard over both lungs, and there was impairment of resonance over both bases. Examinations were difficult and unsatisfactory on account of the facts that the patient was delirious and that the whole chest was so full of bubbling rales as completely to mask the breath-sounds. It seemed as though he had a very marked pulmonary congestion, and until May 8 it was impossible to discover any change in the breath-sounds. The area of impaired resonance at this time extended on the right side from the spine of the scapula to the base.

On May 12 the rales were less numerous over the left lung, but were marked over the right. Over the right base posteriorly the tactile and vocal fremitus were not impaired. Breath-sounds were distinctly heard, the expiration was harsh and the inspiration prolonged. Paracentesis in the eighth right interspace posteriorly was negative. On May 15 the right base posteriorly was flat, extending from the spine of the scapula to the base and to the posterior axillary line. Paracentesis in the seventh and ninth interspaces were both negative. May 18 there was marked flatness below the spine of the scapula, and an exploratory puncture was made in this region with a negative result. May 19, with a new syringe, paracentesis was again performed, this time in the third interspace, since a diagnosis of interlobar empyema had been made, and this time pus was obtained. A roentgenogram

taken on May 19 showed a dense area in the upper part of and along the outer border of the right lung.

The diagnosis being an empyema in the interlobar septum, the patient was transferred to the surgical ward to the service of Dr. L. H. Mutschler. On May 22 Dr. Mutschler made a small incision over the sixth rib in the midaxillary line, and resected a portion of this rib. A considerable amount of pus exuded. A large rubber drainage-tube was inserted. The discharge continued very free and the patient had considerable cough until June 20, when there seemed to be more improvement. June 27 the discharge was less, and the drainage-tube was removed. July 5 the patient was sitting up in bed, and the general condition was very much better. July 12 the discharge had ceased. July 17 the wound was closed, and July 22 the patient was discharged, cured.

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## RUPTURE OF THE UTERUS FOLLOWING CESAREAN SECTION

### WITH A STUDY OF THE UTERINE SCAR

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The enlargement of the field of cesarean section marks one of the advances of modern obstetrics. This operation is being performed for other indications than those of contracted pelves and tumors blocking the pelvic canal. Certain cases of eclampsia and certain cases of placenta praevia, as well as cases which show physiologic incompetence for labor, are being terminated by cesarean section.

Obstetrics has always been a conservative branch of medicine and surgery, in fact, ultraconservative, and it is reluctantly yielding to cesarean section those cases which were formerly treated by high forceps operations, *accouchement forcé*, and version. Does it mean that those operations that have served us so well in the past are to be relegated to the background? If section has been elected and the case is a clean one, the obstetrician rarely regrets that cesarean section was decided on, whereas only too often he feels humiliated for having done the other thing. In most instances the immediate results are good. The child is sound, healthy and free from birth-pressure; while the mother soon convalesces, her birth-canal intact, free from trauma and lacerations —with one exception, the uterine incision.

With these facts before us, we are accumulating in our midst a number of cesareanized women—some with contracted pelves, others with normal pelves—who are going about with scars in their uteri. The consensus of opinion of most obstetricians is that these women need not be sterilized. If this be true, how about subsequent pregnancies? If the woman has a contracted pelvis there is no question as to the management; she is again sectioned. If the pelvis is normal, however, how should the case be managed? With this question in mind, I wish to report the following case.

*Previous History.*—Mrs. N., at the age of 17, had a cesarean section performed at term, March 29, 1909, although measurements of pelvis were normal because a large hematoma blocked the pelvic canal. The records are as follows: A longitudinal incision, 10 cm. long, was made in the anterior wall of the uterus. The membranes were ruptured artificially and the child was delivered. Placenta and membranes were removed manually. The myometrium was drawn together with twenty-day chrome catgut. Sutures were interrupted and did not pass through the serosa or the endometrium. Serosa was closed with a continuous suture of twenty-day chrome catgut and reenforced with a continuous suture of the same material. On the third day the temperature rose to 38.8 C. (101.8 F.), and on the fifth day a profuse purulent discharge from the vagina made its appearance. On the eighth day the temperature was 39.2 C. (102.5 F.), and on removal of the abdominal stitches a stitch-abscess was discovered and drained. Gradually the temperature dropped and from the fourteenth day remained normal. Patient was discharged on the twenty-sixth day in the following condition: perineum firm, uterus anteverted and anteflexed, movable, slightly tender; external os closed. In January, 1911 this woman became pregnant, made application to the San Francisco Maternity Hospital, and came into my service about June 1, 1911. Pregnancy was uneventful. She was delivered spontaneously through the vaginal route, Oct. 29, 1911. Mother and child did well. Puerperium was not complicated by fever or hemorrhage, and both were discharged on the tenth day in very good condition.

*Last Pregnancy.*—This patient was again admitted to my service at the University of California Hospital, April 8, 1913. She had flowed last, July 29, 1912, which would bring her date of expectancy about May 5, 1913. That she was pregnant again was not known to my service; we first learned of her condition when we were summoned to her home. When the woman was recognized she was ordered to the hospital at once. On admission the patient did not feel as though there was anything radically wrong with her. She complained of indefinite irregular pains, not strong in character. Her abdomen was distended and she looked as though she were at term. Temperature was 37.6 C. (99.4 F.), pulse 100, respiration 24. There was no nausea, no evidence of hemorrhage, and she was free from shock. Abdominal examination was not satisfactory. I could not map out the position nor could I get the fetal heart. The patient said she had felt life until the evening of April 7, when what she thought were labor pains set in. After twenty-four hours in the hospital her bowels were moved, followed by the expulsion of much gas. The patient felt more comfortable, got out of bed, walked to and from the toilet and sat up in a chair. Her walk, however, was peculiar. She would bend over and hold the lower part of her abdomen with both hands, contrary to the attitude assumed by the normally pregnant women at this particular time.

*Examinations.*—A careful abdominal examination made at this time gave the following data: Breech above, back anterior and to the left, small parts could not be felt, head was below, above the brim, movable, and a suggestion of crepitus of the bones of the fetal head was obtained. No fetal heart-beat audible. On account of the presence of a dead fetus and these indefinite pains, we decided to bring on labor. Heretofore we had purposely avoided making vaginal examinations as the possibility of a cesarean section had to be considered. Under the most careful aseptic technic, however, a vaginal examination was made. I found the vulva of multiparous character. The vagina was roomy and free from blood. The cervix was thick, not soft, and the cervical canal was not obliterated. The external os would barely admit one finger. With a little pressure I introduced my index finger into the lower uterine segment and to my surprise found it empty. Then only did I realize that I was dealing with a case of rupture of the uterus. The patient was sent to the operating-room where, with Dr. Pope, I opened the abdomen.

*Operation and Result.*—A left rectus incision about 15 cm. in length was made with the umbilicus in the center. On opening the peritoneum the intact bag of waters containing the fetus was seen free in the abdominal cavity, lying in the left occipito-anterior position. The membranes were ruptured and the dead baby was delivered. Following the umbilical cord, we came to the placenta, lying on the external anterior surface of the uterus. This was removed manually. The uterus was fairly well contracted. After separating two omental uterine bands of adhesions, the uterus was examined and the

rupture was seen to have taken place in the old cesarean section scar, extending from the internal os to within 1 or 2 cm. of the fundus. There was no free blood in the abdominal cavity. A black clot was seen lying on the left broad ligament; this was removed. A supravaginal hysterectomy was performed. The left ovary was left behind and the cervical stump, covered with peritoneum, was suspended to the round ligaments. The abdomen was closed, leaving a drain at the lower end of the incision. At midnight the temperature was 38.4 C. (100.1 F.), but in the morning it had returned to normal and stayed there. The postoperative condition was uneventful. The patient was up on the fifteenth and was discharged on the nineteenth day.

*Pathologic Report.*—Gross Description: Specimen is a puerperal uterus, 5 by 4 by 2.5 inches. The right tube and ovary are attached; the left are absent. Round ligaments are readily identified. Anterior surface of uterus presents a longitudinal groove. The hysterectomy was done in the region of the internal os. On the right side the os has a normal appearance, while on the left the anterior margin of the internal os is destroyed. Just above where the anterior margin should be is a ragged edge, probably the seat of rupture. On the anterior surface above, 1 inch from a line joining the tubes, 1½ inches from the median line, is an adhesion ¼ inch thick. A similar adhesion on the left side is 1½ inches from the median line and arises from the fundus. This adhesion has the appearance of omentum. The former one seems fibrous. Posterior surface of the uterus is normal.

Microscopic Examination: Sections from the edge of the rupture show, in many places, intense leukocytic infiltration. For the most part this is confined to the superficial portion of the decidua, but thrombosed veins also occur in the upper part of the uterine muscle. The decidua around the upper portion of the rent corresponds in appearance to the decidua vera. It is made up of glands between which lie typical decidual cells and there is no invasion of trophoblastic elements. The decidua covering the median and lower portions of the edges of the rupture corresponds to the decidua serotina. Many trophoblastic elements are present here, and for the most part consist of syncytial masses, though isolated cells also are found. The muscle beneath the decidua is extensively invaded by trophoblastic elements. The invasion, however, is limited to the muscle immediately beneath the decidua and does not differ from the normal appearance of this region. The musculature in the deeper portion of the section toward the peritoneal surface is normal in appearance except for the fact that the lymph-channels are distended and in some instances filled with small round cells.

From this case we see that a cesareanized woman may have a subsequent pregnancy terminated in one of two ways if left to herself, namely, she may deliver herself spontaneously through the vaginal route, or she may terminate with rupture of the uterus. Neither of these is the usual course. Some of the cases miscarry, but the majority have to be delivered by repeated cesarean section. True, rupture of the uterus following section is rare, but it is not so rare that men doing cesarean section can overlook the probability of its occurrence. In 1908 Broadhead[1] of New York collected nineteen cases from the literature and added one of his own. Up to date, I have found forty-one cases in the literature, my own[2] making forty-two. I want to emphasize the statement that rupture of the uterus following cesarean section is not so rare as Olshausen[3] would lead us to believe. Vasseur estimated that rupture occurred in 2 per cent. of cases. Von Leuwen's figures are, if anything, higher.

Where does the rupture take place? Generally in the scar, but not necessarily so. In Lihotzky's case, five years after section, the rupture did not occur in the old scar, but in the uterine muscle some distance from the scar. In the Dresden clinic a case occurred in a patient who had been delivered by section two years previously for eclampsia. In a second pregnancy induced labor was undertaken outside of the clinic, and the patient was brought into the hospital with symptoms of peritonitis. On performing section the child and placenta were found in the abdominal cavity, and the uterus had ruptured through the right cornu, but not in the scar. Mason and Williams[4] of Boston, in 1910, made an experimental study of the strength of scars in the uteri of pregnant guinea-pigs. They excised areas of muscle-wall containing the old scar and stretched the tissue to the point of tearing. On examination of the lacerations thus produced they proved to their satisfaction that the tissue gave way not at the scar but through normal muscle-fibers. As a result of this fact they have drawn this conclusion: "A carefully sutured and well-united scar will stand any strain which can be endured by the uterine muscle." James A. Harrar[5] of New York cites a "case of rupture occurring after three cesareans. The rupture took place with the onset of labor in a uterus already distended by an overtime child; the rent taking place in the narrow segment of apparently normal muscle tissue isolated between two closely approximated parallel scars, this strip of tissue being intrinsically weaker on account of previous section of its blood- and nerve-supply."

Men who are doing repeated cesarean sections are in a position to give us much valuable information as to the condition of the uterine scar of former sections. McPherson[6] of the New York Lying-In Hospital reports on fifty cases of multiple cesarean sections. In forty-two cases the scar, as observed at subsequent sections, was either not to be seen or was described as solid, with no apparent thinning or stretching. Harrar says that in four instances in which he had occasion to perform repeated cesarean sections, the scar in the uterus has been represented merely by a slightly depressed linear whitening of the visceral peritoneum. Such scars heal by first intention in the absence of infection. If a section of the uterine muscle containing such a scar is examined microscopically, one would see no connective tissue present, or very little; but what is more important would be noted—that the muscle-fibers have completely regenerated themselves and show a normal structure.

Where healing of the uterine wound takes place by second intention, the picture is entirely different. These scars are often thin as a result of gaping of the inner layers of the wound, or as a result of sloughing of the uterine tissue. Sections show that the muscle-tissues of both margins of the original incision are separated, having healed by granulation. I have seen scars that consist merely of the serosa and subserous layer. Certain scars have healed partly by primary union and partly by granulation. These scars are just as apt to give as those that have healed improperly throughout their entire extent. Jolly[7] of the Frauerklinik of the University of Berlin cites just such a case. His patient had a rachitic pelvis. Her third pregnancy was terminated by cesarean section. She had fever for eight

1. Broadhead: Am. Jour. Obstet., 1908, lvii, 650.
2. The author would be glad to send a list of these cases to anyone interested.
3. Olshausen: Ztschr. f. Geburtsh. u. Gynäk., 1905, liv, 369; lv, 415.
4. Mason and Williams: Boston Med. and Surg. Jour., Jan. 20, 1910, p. 65.
5. Harrar: Am. Jour. Obstet., 1912, lxv, 808.
6. McPherson: Bull. New York Lying-In Hospital, vii, No. 4, p. 181.
7. Jolly: Arch. f. Gynäk., 1912, xc, No. 2.

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days after the operation, but was discharged well with her child on the twenty-second day. At the end of her following pregnancy, she entered the hospital to be delivered by section. Labor pains began soon after her entrance and became vigorous. While the patient was in transit from the ward to the operating-room, uterine rupture took place. Section was quickly performed. The child and placenta were found in the abdominal cavity; the child was living and was immediately delivered. The uterus had ruptured in the previous scar. Hysterectomy was performed, leaving the ovaries. Mother and child left the hospital well on the twentieth day. On examination of the uterus, it was found that the scar had separated through half its extent; the remaining half was firm and could be detected only by the white line in the overlying serosa.

One can readily understand how a uterus containing a scar, the result of improper healing, could rupture if it were overdistended as in excessive liquor amnii, twin-pregnancy, or as the result of intra-uterine manipulation. Another factor that may weaken a scar that has healed by granulation is the implantation of the placenta on it. A study of sections taken from the edges of the uterine wound demonstrated the fact that in my case the implantation of the placenta on the scar certainly weakened it so that with the first contractions the increased tension caused the uterus to rupture.

How does the implantation of the placenta on the scar weaken it? Starting in with an infected uterine wound, the scar that results contains granulation tissue, no matter how slight. This soft connective tissue soon becomes covered with endometrium and the uterine glands penetrate it. As pregnancy ensues the endometrium is converted into decidua which forms a looser and softer tissue. Trophoblastic tissue and chorionic villi, with their burrowing and penetrating properties, invade the loosened and softened scar and weaken it so that it is a question whether or not it can stand the strain and stress of labor.

A peculiar feature about my case was the comparative absence of symptoms and the mildness of those present. As a rule, one can generally obtain a history of a sharp, shooting pain in the abdomen followed by a sensation as if something had given way. In some instances the patient may collapse as a result of shock, but this was not true in my case. Hemorrhage was also absent. The only symptoms of which the patient complained were (1) slight bearing-down pain, irregular and indefinite in character; (2), a feeling of weight in the lower abdomen, more marked on standing. The signs that I secured on examination were: a slightly distended abdomen with a history of constipation, absence of nausea and vomiting; no fever. Abdominal palpation gave very few data. I mapped out the fetus as if it occupied the left occipito-anterior position, and when we opened the abdomen, there it was, wedged in in that position. I am repeating these symptoms to show how insignificant they were, while the patient was going about with the child and secundines in her abdominal cavity. Williams[8] of Johns Hopkins, says that "in some cases the patient merely complains of malaise, grave symptoms only occurring later as the result of infection or putrefaction of the fetus. Thus, in one of my cases, two weeks elapsed before the appearance of alarming symptoms." Hartman[9] has drawn similar conclusions; he says: "These cases seem peculiar in that the patients complain of very little pain at time of rupture and seem much less disturbed than in cases in which rupture had occurred without section." The fact that vaginally I could not feel the presenting part was conclusive evidence to me that the uterus had ruptured and that the fetus had escaped into the abdominal cavity.

Just a word as to the operative treatment. Each case is a case *per se*. If the rent is a partial one, or one the margins of which are not jagged, the operator can resect the scar tissue, freshen the edges and sew up the wound; on the other hand, if the tear is extensive and irregular, it is far better to do a supravaginal amputation. In case the mother has two children or more, and the uterus is left behind, I would certainly sterilize her unless the parties concerned object.

8. Williams: Obstetrics, New York. D. Appleton & Co., p. 861.
9. Hartman: Ztschr. f. Geburtsh. u. Gynäk., 1908, No. 62.

CONCLUSIONS

1. A cesareanized woman who gives a history of an infection with a purulent vaginal discharge in the puerperium is a good candidate for rupture of uterus in one of her subsequent pregnancies.

2. The mere fact that a cesareanized woman has delivered herself spontaneously is no reason for believing that she is free from the danger of rupture of the uterus with her future pregnancies.

3. Rupture of a cesarean-section scar generally takes place in a scar resulting from improper wound-healing in the presence of infection.

4. The implantation of the placenta on the site of the scar may so weaken the uterine tissue that it may rupture under the strain and stress of labor.

5. I firmly believe that cesarean section should be limited to those cases in which it is strictly necessary. If there is any possible chance for the uterine wound to become infected, some operative measure for sterilizing the patient should be employed.

6. A cesareanized woman should be in a maternity hospital during the last month of her subsequent pregnancies so as to be under constant medical supervision.

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## THE CONSERVATIVE TREATMENT OF UNDESCENDED TESTICLE *

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Although more than thirty years have passed since Schüller[1] described his operation for bringing the undescended testicle into the scrotum, and although in this time many other observers have reported series of cases and personal experiences, many surgeons still doubt the practicability of the operation and in dealing with this condition advise excision of the undescended testicle as the operation of choice.

Rawling[2] is the most prominent advocate of excision as the operation of choice, his conclusions being based on a study of the results of 120 cases.

Opposed to Rawling we have on the other hand numerous reports, including those of Brocha, Bevan and Coley.

The important questions to be decided regarding this operation are, first: Is the non-descended testicle worth

* Read before the Southern Surgical and Gynecological Association, Atlanta, Ga.
1. Schüller: Ann. Anat. and Surg., 1881, iv, 89.
2. Rawling: Practitioner, London, August, 1908, p. 250.

saving? Second, Is it technically possible to bring such a testicle into the scrotum in a manner that will preserve its vitality? With these points in mind I have studied the histology of undescended testicles removed at operation, the literature on the subject and the end-results of sixteen operations in which I have placed the testicle in the scrotum.[3]

This study is limited to cases of undescended testicle as distinguished from those of malposition of the organ.

The undescended testicle may occupy any position in the normal route of descent of the gland. Three general divisions are made, (1) abdominal, (2) inguinal and (3) puboscrotal, these divisions being made by the relation of the testicle to the internal and external abdominal rings. One form may pass into the other according to various circumstances. For instance, a testicle arrested in the inguinal canal may gradually pass down outside the external ring and even into the normal position in the scrotum. The last-mentioned result is rarely observed except in childhood. Or, an inguinal testicle may be forced back into the abdomen by external violence or muscular contraction.

In the older literature practically all the attention is concentrated on the occurrence of malignant change in an undescended testicle, and consequently excision was the only treatment considered. Later study shows the frequency of malignant disease in undescended testicle to be less than was supposed and nearly always to occur in cases of inguinal retention, in which the greater exposure to trauma explains susceptibility to malignant change. As will be shown later, it is in this inguinal form of non-descent that the operative treatment is most successful in securing both normal position and good nutrition for the testicle.

The histology of the undescended testicle varies in wide limits. A very complete study of the pathology of the undescended testicle has been published by Uffreduzzi.[4] He distinguishes four types of undescended testicle: (1) those with few signs of disturbed development; (2) those with marked disturbance; (3) those showing distinct senile retrogression, and (4) those consisting largely of edematous fibrous interstitial tissue.

The changes occurring at puberty in the normal testicle seem delayed in the undescended gland. This is indicated for the most part by the persistence of the interstitial cells in large numbers. In the specimens which I have examined, spermatogenesis was observed in three of the seven cases in which the testicle was removed from young adults. This proportion of spermatogenic activity is about the same as that reported by Odiorne and Simmons,[5] who found adult spermatozoa in four of nine testicles examined, and a few tubules containing spermatogonia in one of the remaining five cases. In the remaining cases the histologic picture resembled the infantile type of testicle four times, and the senile testicle twice.

Imperfect development of a portion of the genital organs in embryonic life gives an abnormal testicle, which does not descend but is retained in the abdomen. With such a testicle the inguinal canal on the same side is usually closed tight, the scrotum atrophied, and the vas and seminal vesicle insignificant. This form of undescended testicle cannot be improved by surgery and seldom requires any treatment. The glandular epithelium, if formed at all, soon degenerates and is absorbed, leaving a fibrous mass to represent the testicle.

On the other hand, there are undescended testicles which have the normal structure of the infantile testicle, but which fail to develop into the adult type when allowed to remain in the abnormal position.

Finally, there are undescended testicles in which spermatogenesis and the other changes characteristic of the adult form develop at puberty, but in which senile changes resulting in atrophy occur very early, unless the testicle is brought into its normal position.

In the two varieties last named the testicle is almost always associated with a congenital inguinal hernia and has a normally developed vas and seminal vesicle. They are usually situated in the groin, or in the abdomen close to the internal abdominal ring. The spermatic vessels and the vas with its blood-supply may be contained in a mesentery-like fold of the peritoneum, a persistence of the fetal mesorchium; but there is no regular relation of position of testicle with histologic structure or development, and the abdominal or inguinal gland may be fibrous and entirely undeveloped.

These three varieties are examples of the views of Hunter, of Curling and of Monod and Arthaud, respectively, on the cause of the imperfect function of the undescended testicle.

Whether or not a gland of the infantile type will develop all of the adult characteristics after transplantation into the scrotum is not certain. The transplantation undoubtedly is a factor in the production of those changes which are associated with the development of secondary sexual characteristics.

It is difficult to arrive at a conclusion regarding the subsequent development of the spermatogenic function in these infantile glands. Experimentally, with dogs, Griffiths[6] has proved the converse to be true, namely, that when the fully descended testicle is replaced in the abdomen the gland becomes soft and small and never shows active spermatogenesis. Schmidt[7] shows that when the immature testicle is transplanted into the abdomen, it develops to the extent of forming spermatocytes, but then gradually degenerates. In man it is probable that spermatogenesis when developed persists for only a short time, and that the testicle rapidly passes into the senile form.

It is generally agreed that the testicular changes incident to puberty are delayed or prevented by the faulty position of the undescended testicle. It is, therefore, important to transplant such testicles into the scrotum before puberty. Spontaneous descent may occur in young children, but is rare after ten years. It is at this age, therefore, that operation becomes necessary, and for double non-descent imperatively so, because unless transplanted, both glands are very likely to remain infantile or become functionless.

For single non-descent I think that the operation is almost equally important. Disease or injury of the other

3. These patients came under my care in St. Agnes' and the Mercy hospitals, Baltimore, between the years 1906 and 1913. During this time there were also admitted to St. Agnes' Hospital four patients with undescended testicles, in whom the organ was not transplanted into the scrotum. In three cases the testicles were excised. All of these were unilateral retentions, occurring in young adults, and were complicated by hernia. One of these excised glands contained several tubules showing active spermatogenesis. The others were atrophic. The fourth patient was a child of 10 with a left-sided retention. There was no hernia and at operation a most diligent search failed to reveal the presence of a testicle or vas deferens on the affected side. The cremaster muscle was well developed, but the internal ring was entirely closed. We have had no case of malignant tumor in an undescended testicle.

4. Uffreduzzi: Arch. f. klin. Chir., 1913, c, 1151 and ci, 150.

5. Odiorne and Simmons: Ann. Surg., December, 1904.

6. Griffiths: Jour. Anat. and Phys., 1893, xxvii.

7. Schmidt: Beitr. z. klin. Chir., 1912, lxxxii, 36.

testicle may occur at any time and so render it useless, or even require its removal.

After puberty the undescended testicle is unlikely to develop adult characteristics. In most cases even after transplantation into the scrotum it does not develop further, and often atrophies. There are cases, however, in which the opposite result occurs. This is proved by the occurrence of active and potent spermatozoa in the semen of persons in whom both testicles have been transplanted after puberty. In one of my cases the patient was 30 years of age at the time of operation. Both testicles were in the abdomen and were complicated by hernias. Both were brought into the scrotum, after division of the spermatic vessels. Eighteen months after the operation the patient became the father of a child. Whether this case is one of those in which the undescended testicle had taken on the changes of puberty and possessed spermatogenic function at the time of operation, or whether the testicle has developed in its present position, cannot be decided. This much at least is proved: the operation did not destroy the vitality of the testicles, and a recent report from the patient states that their form has been preserved.

In operating for the relief of undescended testicle we find that the obstacles to our placing the gland in the scrotum consist of adhesions between the structures of the cord and the vaginal process of peritoneum, with more or less tortuosity and adherence of the spermatic vessels. These barriers must be removed, if the gland is to be properly placed in the scrotum.

Unless the structural shortening of the cord is overcome by division of these contracted tissues, no fixation will retain the testicle in the scrotum. The Bevan[8] operation furnishes a method by means of which we are able to accomplish this end. The ultimate success of the Bevan operation depends on the great factor of safety provided in the blood-supply of the testicle. Either the spermatic or the deferential artery alone seems able to supply sufficient nourishment for the vitality of the testicle. Therefore, in cases in which short spermatic vessels make a persistent barrier to the transplantation of the testicle into the scrotum, these vessels may be divided without necessarily destroying the function of the organ.

Following is a description of the operation done in the present series:

After the usual skin disinfection, the inguinal canal is opened as in the hernia operation. The testicle, if situated in the groin, is lifted up and by gentle traction the cord is put on the stretch. The peritoneal covering is incised around the cord as high up as is possible and the spermatic vessels separated by blunt dissection from their peritoneal covering inside the abdomen. The vessels are now straightened out by dividing all adhesions.

In many cases this loosening gives sufficient mobility to the cord to bring the testicle into the scrotum. Should this prove true the tunica vaginalis is turned back over the testicle and the gland is placed in the scrotum. Usually it is necessary to make a pocket for its reception, by pushing the finger or a clamp into the scrotum.

When the testicle is retained inside the abdomen, the peritoneal cavity is opened through the hernial sac, which is usually present, or the wall is incised in the region of the internal ring. The testicle may be found in the abdomen, with the structures of the cord in the canal; or all the vessels and the vas may be retained in the abdomen. In the former event the testicle is drawn out and an attempt is made to lengthen the cord by division of adhesions, etc., as just described. With the latter condition it is usual to find a mesorchium, the vessels showing plainly through the peritoneal covering. This mesentery-like structure fixes the testicle to the abdominal wall and must be divided in order to gain sufficient mobility for the transplantation. The testicle with its mesentery is brought out through the wound and the vas with its vessels separated from the spermatic group. The two sets of vessels are easily distinguished coming from different directions inside the peritoneal fold.

The spermatic vessels are doubly ligatured and divided. The peritoneum is split so as to bring the vas and its vessels with the testicle into the inguinal canal and the scrotum. Enough peritoneum is retained to form a coat for the testicle.

The division of the spermatic vessels removes the greatest factor in the shortening of the cord and should be done whenever the separation of adhesions, etc., do not give sufficient length to permit the testicle to rest easy in the scrotum. A slight gain may be obtained by shortening the distance from the abdomen to the scrotum. This is accomplished by dividing the floor of the canal down to the deep epigastric vessels. This was done in one case and thereby the spermatic vessels were preserved. I have never been required to ligate the epigastrics and carry the opening of the floor beyond them, as recommended by Davisson,[9] although this maneuver should be considered before resorting to excision of the testicle.

In closing the canal a stitch is taken through the pillars of the external ring and the cord, fixing the latter structure. In other respects the closure is the usual one made for inguinal hernia without transplantation of the cord.

In my experience the immediate result has been good in all cases and the ultimate result, for periods ranging from three months to seven years, in all cases has been satisfactory. There has been no gangrene of the testicle even in the cases in which the spermatic vessels were divided. All the hernias are cured. No testicle has retracted out of the scrotum, and there has been no gross atrophy of the transplanted organ.

All sixteen cases were associated with hernia. One hernia was strangulated. The spermatic vessels were divided four times. There were four bilateral cases, three left-sided and nine right-sided single retentions. Of this number ten patients have been examined or heard from during the past two months. The bilateral cases have been watched very carefully and three of the four have reported. One of them is the adult mentioned above. The two boys were 12 years old at the time of operation. Both were quite undeveloped and showed absence of pubic hair and other secondary sexual characteristics. Both have since developed these characteristics. In one the change occurred very promptly and was marked four months after the operation. The other boy required nearly a year for the change to be noticeable. These boys were operated on fifteen and twenty-four months ago, respectively. In the earlier operation the spermatic vessels on one side were divided.

In the remaining seven cases the patients were operated on from three months to seven years ago.

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8. Bevan, Arthur Dean: The Surgical Treatment of Undescended Testicle, THE JOURNAL A.M.A., Sept. 19, 1903, p. 718.

9. Davisson: Surg. Gynec. and Obst., 1911, xii, 283.

**Politics and Health Administration.**—Politics has been a curse of health administration in this country. Politics and sanitation do not mix. One of the important things is to divorce the two. Only those should be appointed to the position of health officer whose training adequately prepares them for the work. Such persons should be given compensation commensurate with their great responsibility, and the tenure of office and other conditions should be attractive so as to induce competent men to enter and build up the profession.—M. J. Rosenau in *Vermont Med. Month.*

# ACUTE INTESTINAL OBSTRUCTION DUE TO GALL-STONE

REPORT OF CASE

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Among the causes of intestinal obstruction listed in the text-books, such as bands and adhesions, volvulus, Meckel's diverticulum, etc., obstruction due to gall-stone is also mentioned, although it occurs so rarely that many men of large experience go through a long professional career without having seen a case. Because of its relative infrequency, as well as from the interest which is naturally felt in cases of this character, the great majority of cases in which it is recognized are matters of record. This is especially true when the diagnosis is confirmed, or the condition discovered at the time of operation (for it cannot be denied that most cases have escaped definite diagnosis beforehand). It follows that the literature of this subject is fairly comprehensive.

I shall confine myself therefore to a report of my own case, with a brief discussion of some of the more interesting features, referring those who may care for a more thorough investigation to the numerous articles on this subject.

On April 2, 1913, I was asked to see Mrs. W., who for four days had been persistently vomiting large quantities of greenish fluid. All attempts to move the bowels during this period had failed, although five days before, as a result of a purgative, there had been five or six free movements. The obstruction therefore was acute.

*History.*—The following history of the patient prior to the time at which I saw her was given by her physician, Dr. O. B. Ross of Charlotte, N. C. The patient was a white woman, aged 60. Her father died of old age. The mother died of erysipelas at 45. There were four brothers, of whom two were killed in war and one died suddenly, and three sisters, of whom one died from unknown cause. The patient had measles at 12, and no scarlet fever or diphtheria. She had typhoid fever at 22 and was in bed for four weeks from this cause. During the last ten years she had suffered from several attacks of gout. Eight years ago she had an attack of renal colic and passed a calculus; one year later the patient passed another stone, but has had no attack since. She is the mother of eight children, six of whom are alive and in good health. She has never suffered from jaundice or any symptoms referable to gall-bladder.

*Present Illness.*—This began March 29, 1913. There was slight stomach disturbance and pain in the right side, which the patient thought was another attack of renal colic. About 5 p. m. of the same day she vomited a large amount of greenish material. She had taken a purgative and her bowels had moved six or eight times the day before. She vomited three times during the day. The liver was not enlarged. There was slight tenderness over the twelfth rib anteriorly. There was no tenderness over the gall-bladder region and no fluid in the abdominal cavity. The heart sounds were fair but rather distant while the patient was lying down. Temperature 99.6 F. Pulse 82. Vomitus from 8 to 15 ounces and very green.

*Examination.*—The urine was of light amber. Specific gravity 1.020. There was a trace of albumin and also of pus; there was no sugar, few casts, uric crystals and no blood.

March 31, 1913. Leukocytes 9,400. The temperature did not go over 99 F. during the day. Large amounts of green fluid were vomited at intervals of from three to five hours. The pain in the abdomen was general, diffuse and nagging. There was an absence of pain in the right side like kidney pain. There was tympany above the umbilicus; below it there was dulness but not flatness. The patient has had an umbilical hernia of large size for thirty years, part of the hernia being irreducible. On one occasion she had sudden pain in the region of the hernia, vomiting and cold sweat, which soon passed off on lying down.

When seen by me, four days after the beginning of the attack, the patient had the usual symptoms of acute intestinal obstruction. Considering the length of time the obstruction had existed, her general condition was fairly good. She was a very large woman, weighing over 200 pounds. Palpation of the abdomen, because of its size, was largely negative, and although there was absence of the ordinary signs of strangulation, it was thought that the cause of the difficulty would be found in connection with the hernia.

Operation was advised as imperative, irrespective of the cause, and the consent of the family being obtained was done on the afternoon of April 2.

*Operation and Result.*—The usual transverse incision for the radical cure of umbilical hernia was made, and the sac found to contain a large amount of omentum, adherent but not strangulated, but no intestine. The cause of the obstruction evidently did not lie there. On passing the hand into the right flank a hard mass was felt the size of an egg, and on delivery of a dark-colored, swollen and distended loop of intestines the lumen was found effectually plugged by a foreign body, which with the discovery of a smaller body in front, and the presence of a facet on both, was sufficient proof of a gall-stone. The small stone acted as a pilot for the larger one, the latter having a rough and corrugated surface, which no doubt materially increased the difficulty of its further progress through the bowel.

The intestine at the point of obstruction seemed badly affected though still viable, and an effort, which was partly successful, was made to slide the stone into a more favorable locality before the bowel was opened. During this maneuver the small stone slipped down and was not again found, until it passed by rectum on the third day.

The intestine was incised opposite its mesenteric border, and the large stone delivered, the bowel being closed in the usual manner. A considerable portion of the omentum, adherent to the hernial sac, was amputated; as a result the remaining part was too short to interpose between the damaged intestine and the abdominal wall. A superficial examination of the gall-bladder region, which was all that could be made without an enlargement of the wound, showed extensive adhesions, but no special attempt was made to demonstrate the point of anastomosis between the gall-bladder and the intestine.

In the desire to cure the hernia the fascia was overlapped transversely and the wound closed without drainage, the absence of a drain being no doubt a technical error, considering the extreme probability of wound contamination.

The patient was immediately relieved of the vomiting and other obstructive symptoms, and the progress of the case was most favorable until the fifth day, when a slight rise in temperature developed, and on the sixth day on examination of the wound the right half of the incision was found to be infected, the left half healing primarily. In a few days, from the character of the discharge and the escape of gas, it became evident that there was also a fecal fistula. The sutured portion of the ileum, having no omental covering, had no doubt adhered to the under surface of the abdominal incision. There was profuse discharge for about ten days, after which the wound began to heal quite rapidly, until at present, May 28, there is a very small fistulous tract with almost no discharge. The patient is up and about, but so far there is no indication of a return of the hernia.

The large stone in this case was 6 inches in its greatest circumference, and 4½ in the lesser; the length was 2½ inches. The largest stone reported by Barnard[1] was 3¾ inches in circumference.

The relative infrequency of gall-stone obstruction is seen in the oft-quoted statistics of Leeds Infirmary and

1. Barnard: Ann. Surg., August, 1902.

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the St. George Hospital. The former showed only one case in ten years, and the latter only one in fifteen years. Martin[2] says that the records of Johns Hopkins Hospital, together with those of the Union Protestant Infirmary in Baltimore, out of 280 cases of obstruction, show only one due to gall-stone. He also states that he was able to collect but four cases from the six leading surgeons of that city, and that two of the men with the largest and most active careers had never seen a case.

Access to the intestinal canal practically always presupposes the passage of the stone through a fistulous tract between the gall-bladder and the intestine. The point of communication is most commonly the duodenum, and occasionally the colon, but some very strange cases have been reported in which the stone escaped into the urinary bladder, or into the stomach, being later vomited. For obvious reasons the stone can very seldom produce obstruction when it enters the colon, but in the small intestine, because of the gradual narrowing of the lumen, "funnel-shaped" it has been called, the stone is usually arrested within a few feet of the ileo-cecal valve, sometimes in the valve itself.

Few cases of gall-stone ileus have been diagnosed prior to opening the abdomen. Barnard was able to make an accurate diagnosis in one of his three cases, but Møller[3] of Copenhagen, in analyzing twenty-two cases of gall-stone ileus in which he operated, commenting on diagnosis, says that "there had been no previous symptoms of cholelithiasis in quite a number of cases," while typical colics had occurred in only six of the twenty-two. Other observers have made similar statements, so that we can obtain but little aid from this source.

Møller further noted that "even when the abdomen is opened, the diagnosis is difficult; in a number of instances the conditions first found were assumed to be sufficient to explain the ileus and no further search for a gall-stone was made, and thus it escaped detection. In only three cases was the ileus traced to its true cause before the operation. Only four of the twenty-two patients survived; the mortality was thus 82 per cent." In all of his cases, however, the obstruction had existed for two weeks or more before the operation.

The peculiarly fatal nature of this form of ileus is shown in the experience of all other writers on the subject, the mortality following operation, in the opinion of one operator, who lost twelve out of thirteen cases, being prohibitory. Even in the recent statistics collected by Martin, the death-rate is given as 69 per cent., the reasons for which he thinks are due to the advanced age of the patients, the fact that operation is often undertaken as a last resort, and the long-standing toxemia resulting from obstruction.

2. Martin: Ann. Surg., May, 1912.
3. Møller, P.: Gall-Stone Ileus. Hospitalstid., March 26, lvi, No. 13; abstr., THE JOURNAL A.M.A., May 17, 1913, p. 1589.

**Resuscitation.**—An interesting and useful number of the medical series of publications of the University of Missouri is that on resuscitation, by D. H. Dolley. The author discusses at some length the scientific basis of resuscitation, the specialized work of the organs of the body, the viability of the brain and nervous system, which is the weakest point in respect to viability after asphyxiation, the viability of the other organs, clinical death and true death and instances of resuscitation after prolonged periods of apparent death. Methods of resuscitation and their relative efficiency are given consideration, and the treatment of accidental asphyxiation produced by different agents is set forth. It is suggested that too much reliance should not be placed on the popular "pulmotor" and similar contrivances.

## SEVERE ERYTHEMA MULTIFORME WITH ANAPHYLAXIS DUE TO OYSTER PROTEIN

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WASHINGTON, D. C.

Erythema multiforme with visceral manifestations of varying degrees of severity is recognized by the majority of clinicians. The descriptions of Osler[1] still stand as classics; but little has been added to them.

The etiology of the condition has never been settled, except that the majority of observers are agreed that there is a toxemia of some kind, whatever that may mean. Köbner[2] thought that it was angioneurosis due to vasomotor disturbances; Lewin[3] that reflex causes, especially those of urethral origin, might be responsible. Galloway[4] considered that auto-intoxication was to blame, and Finger[5] thought that the local effects of bacteria on the tissues might be the cause. Certain other observers[6] have shown its association with typhoid fever, or with other infections. Corlett[7] has definitely established that some cases may be due to streptococcus infections.

In a recent case, under my care, the patient apparently suffered because of a definite anaphylaxis against oyster protein, and because of this fact the case is worthy of being put on record.

E. F., white woman, aged 50, trained nurse, was referred to me, Jan. 3, 1913, by Dr. Jackson of Washington, because of a very severe attack of hives.

The history showed that about the middle of December she had eaten a few raw oysters, and that a few hours later had had a rather violent attack of urticaria that lasted about seventy-two hours. Accompanying this attack there had been some fever and fairly definite abdominal pain.

On the night of December 31 she had eaten about half a dozen fried oysters, and four hours later was seized with abdominal pain and very severe urticaria, which was not relieved by cathartics and simple lotions.

When seen by me, January 3, her entire body was covered by an eruption that was a combination of the macular type of erythema multiforme and of urticaria. None of the lesions were more than 2 cm. in diameter, and many were distinct wheals, but the macular lesions persisted for several weeks, and were not at all wheal-like. The itching was very intense, and the skin was covered by scratch marks. The temperature by mouth was 101, and the pulse 104. The right knee and the left elbow were swollen and painful, and the movement in them was markedly restricted. The abdomen was slightly tender, especially over the left upper quadrant. The urine had a specific gravity of 1.010, and contained no albumin or sugar, no casts, red or white blood-cells, and no excess of indican. The hemoglobin was 90 per cent., and the white cells numbered 16,500. A differential count of 500 leukocytes stained by the Jenner method showed the polymorphonuclears 45 per cent., eosinophils 17.8 per cent., large mononuclears 1 per cent., small mononuclears 32 per cent., transitionals 4.2 per cent. and mast-cells 0.8 per cent.

January 8 it was noted that the cutaneous condition was no better, in spite of the usual treatments, and that the tem-

1. Osler: Am. Jour. Med. Sc., 1895, cx, 629; ibid., 1904, cxxvii, 1; Brit. Jour. Dermat., 1900, xii, 227.
2. Köbner: Klinische und experimentale Mittheilungen, etc., 1864.
3. Lewin: Berl. klin. Wchnschr., 1876, xiii, 321.
4. Galloway: Brit. Jour. Dermat., 1903, xv, 235.
5. Finger: Arch. f. Dermat. u. Syph., 1893, xxv, 765.
6. Parker and Hazen: Bull. Johns Hopkins Hosp., 1911, xxii, 79.
7. Corlett: Jour. Cutan. Dis., 1908, xxvi, 7.

perature was 104.5 by mouth. Abdominal pain had been so severe as to simulate gall-stone colic, but the tenderness was on the other side of the abdomen, and there was no jaundice. The tongue was heavily coated but otherwise the mucous membranes were clear. Both knees and both elbows were now involved. There had been slight bleeding from the nose, and a touch of bronchitis of the large tubes. The leukocytes numbered 12,000, but the eosinophils were 20 per cent. Hexamethylenamin was tried in large doses.

January 10 the temperature was 101, and the joint and abdominal symptoms were better, but the rash had not changed and still itched as intensely as ever.

January 20 the abdominal pain was gone and there was only an occasional attack. The temperature was normal, and the patient looked much better, but the cutaneous manifestations were practically no better. The patient was given 50 million dead colon bacilli and 200 million dead *Staphylococci albi*.

On the 30th it was noted that the patient became better after the injection of vaccine, but that for the last two days she had been worse again so far as the cutaneous eruption was concerned. She was given 75 million colon bacilli.

February 5 she was very much better, and was given 100 million colon bacteria. The patient's convalescence was uninterrupted.

On account of the definite history of the eruption following the eating of oysters, especially when the previous indulgence in the same article of diet had excited an outbreak, it was determined to prepare a vaccine from an oyster, and inject some of it just beneath the skin, as is done in the luetin test, to see if there would be a local skin reaction, such as has been obtained in cases of fagopyrism, or buckwheat poisoning.[8] Accordingly Dr. VanSwearingen, pathologist to Freedmen's Hospital, prepared me a fine emulsion from an oyster, heated it at 60 C. for one hour, and placed it in a sterile bottle. An injection of 5 minims was made just beneath the skin on February 15. No local reaction followed, but within three hours the temperature had risen to 102, the pulse-rate to 115, and there was a violent attack of urticaria, that lasted two days. Accompanying this there was general malaise, some nausea, and slight abdominal pain. In two days, however, these symptoms disappeared, and up to the present time she has remained well.

The attack of urticaria, with visceral manifestations, excited by the injection of the oyster vaccine, although other hypodermics had not caused an exacerbation of the symptoms, would seem to show that the oyster proteins had caused a condition of hypersusceptibility, and that the attack of December 30 as well as the attack experimentally excited on February 15 were anaphylactic phenomena.

The Rochambeau.

## VOMITING OF PREGNANCY TREATED BY INJECTION OF BLOOD OF NORMAL PREGNANT WOMEN

ARTHUR H. CURTIS, M.D. CHICAGO

The following case is reported because of the outcome of the treatment used and in the hope that others may be induced to employ the same method in suitable cases:

*History.*—The patient, aged 36, first seen during the sixth month of pregnancy, had previously undergone three labors. Eight years before I saw her the first child was delivered with forceps. This was followed by puerperal infection with pyemia, and ultimately by return to fairly good health. A second pregnancy was interrupted because of placenta praevia; the third was normal in all respects and resulted in the normal birth of a full-term child, now four years of age. In none of these pregnancies were there evidences of intoxication or renal disturbance. A moderate amount of nausea, almost unaccompanied by vomiting, occurred each time during the early months.

*Fourth Pregnancy.*—For three months the course had been regular. Then general malaise began, accompanied with irregular fever of from one to three degrees. With the onset of fetal movements, tenderness, dragging and aching pain in the right lower quadrant became a constant feature. Nausea developed and was followed by vomiting which became intractable. Repeated physical examinations and analyses of urine were negative. Various therapeutic measures proved unavailing. At the time of examination no physical abnormalities were evident. The patient was not neurotic despite incessant vomiting for a period of five weeks, with associated loss in weight and strength. She believed that all food was vomited, but fasting for twenty-four hours caused a marked accentuation of weakness, which indicated that some nourishment had been retained.

*Treatment.*—By means of a petrolatum-coated syringe, 15 c.c. of blood were withdrawn from a pregnant woman in whom the Wassermann reaction was negative, and were at once injected into the muscular tissues of the patient's back. Despite the fact that she felt no confidence whatever in the treatment, the symptoms improved within eighteen hours. Emesis continued, but a large proportion of food was retained. Five days later, from another pregnant woman in whom the Wassermann reaction proved negative, a considerable amount of blood was withdrawn, immediately defibrinated and 10 c.c. were injected into the patient, with the result that complete cessation of vomiting occurred within eighteen hours. Two subsequent injections of defibrinated blood were made within the next two days, after which all treatment was discontinued.

Pregnancy continued undisturbed and was followed by normal labor at term with birth of a healthy child.

909 Monroe Building.

8. Smith, Harry Lee: Bull. Johns Hopkins Hosp., 1909, xx, 153; Buckwheat-Poisoning, Arch. Int. Med., May, 1909, p. 350.

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**Strangulated Hernia with Gangrene.**—Fred D., aged 22, was attacked at 6 p. m., Nov. 22, 1913, with a sudden pain in the right testicle. The pain was not severe enough to prevent sleeping, but on arising in the morning the patient found the testicle swollen and painful. He felt so sick that he was advised to hurry to his home, 50 miles away, the physician telling him it was an orchitis and "would need lancing." There was no history of specific infection, traumatism or grip, but the patient declared that the swelling began in the testicle. On reaching home, he called his physician, Dr. McDaniel, who made a diagnosis of orchitis (second day), but later on the doctor was not satisfied with the diagnosis owing to the violence of the patient's symptoms. The third day the patient began to vomit frequently; the abdomen was greatly distended, but not very tender, pulse 98 and temperature 99.8; he was restless and had a very anxious facial expression. The scrotum was as large as a cocoanut; the skin was bluish black and the prepuce the same. Both began sloughing the morning of the fourth day. I saw the patient at 11 p. m., end of fourth day, and found all the above-described conditions present but more pronounced. The scrotum was black and sloughing; also the skin of the right side of the penis and the prepuce were in the same condition. There was a foul odor from the blackish exudate. We suspected strangulated hernia, but never having seen such a condition of the scrotum and penis in any strangulated hernia, I was not sure what we had to deal with. The operation revealed a large loop of small bowel in the scrotum, which was black and gangrenous and of a very offensive odor. I made a resection of 9 inches of the small bowel, using a medium-sized Murphy button, and did the best Bassini operation I could under the circumstances. The anesthetist, Dr. Bowden, reported the patient dying on the table, but nevertheless the operation was completed. Just as I finished, the patient "flinched" and I found that he was not so dead as we had thought. He finally rallied, and has made a good recovery. He passed the button the eleventh day.—L. P. ALLISON, M.D., Brownwood, Tex.

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## A CASE OF TRAUMATIC RUPTURE OF THE HEART

B. J. O'NEILL, M.D., SAN DIEGO, CAL.

*History.*—The patient, F. R., schoolboy, aged 9, while playing at school was set on by some older boys, who knocked him down and jumped on him. He walked home, complaining of pain in the left groin, remained in bed two days, and then was up and about for four more days, still complaining of pain in the region of the left groin and hip. On the seventh day he was brought to San Diego, a distance of 30 miles, by train, and walked two blocks to my office, still complaining of the same symptoms. At no time did he complain of pain anywhere else.

*Examination.*—This revealed a well-developed boy walking with a decided limp and evidently suffering considerable pain. A slight swelling and redness over the left saphenous opening was discovered. There was also considerable limitation of the abduction and rotation of left thigh. Abdomen and inguinal rings were negative. No examination of the chest was made. Patient was sent at once to a hospital where a roentgenogram of the hip and pelvis was made, nothing abnormal being shown. A diagnosis of a hematoma was made and patient put to bed for rest and treatment.

*Treatment and Course.*—Hot fomentations were applied to the hematoma in the groin. Temperature at this time was 98.6, pulse 102 and regular, respirations 25. Patient rested quite comfortably until about twelve hours after entrance to the hospital, when, at 6 a. m., he suddenly went into a state of collapse; pulse and respirations became very rapid, and he died in one hour.

*Necropsy.*—This was made three hours later by Dr. H. A. Thompson. When the chest was opened the pericardium was found bulging forward, very tense and full. It was found to contain about 500 c.c. of fresh blood and about 200 gm. of dark clotted blood, evidently of some days' standing. A perforating slit was found, measuring about 3 mm. in length, just at the auriculoventricular junction of the left heart, immediately above the middle of the anterior leaf of the mitral valve. Myocardium and valves were normal. Lungs, abdominal viscera, peritoneum, etc., were negative.

It is apparent that this boy suffered a traumatic rupture of the heart at the time he was jumped on, with some hemorrhage into the pericardium, followed by a sealing of the perforation with a clot. Some movement of the patient caused this clot to break loose, and death resulted from hemorrhage into the pericardial sac. It is remarkable that he had been up and around for four days with the clot holding.

The case is of interest not only from its rarity, but also as an illustration of the value of a complete physical examination in every case. Had such an examination been made here, at least an approximate diagnosis of the real trouble might have been made.

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**Fuchsin Ointment in Tinea Sycosis.**—Two articles that appear in THE JOURNAL, "The Germicidal Action of Basic Fuchsin" by E. S. May, April 20, 1912, p. 1174, and "Basic Fuchsin in Chronic Leg Ulcer" by E. S. May and M. L. Heidingsfeld, May 31, 1913, p. 1680, suggested the use of that remedy in a very obstinate case of tinea sycosis of long standing. The patient, an Egyptian fellah (peasant), said that he had contracted the disease fourteen years before and had been treated by innumerable physicians and quacks without benefit. He certainly bore the marks of the ravages of the disease, which lent credence to the truth of his statement in regard to its duration. He had a scar over the lower right cheek extending down onto the neck and up back of the ear and well into the hair. There was cicatricial contraction enough to draw the head markedly to the right side. Most of the usual remedies, as sulphur, benzoin, copper, ammoniated mercury, beta-naphthol and iodin, were given faithful trial with only slight improvement. When a 1 per cent. fuchsin ointment with an adeps lanae base was applied improvement was at once apparent and continuous until a cure was effected.—H. B. HANSON, M.D., El Feshn, Egypt.

# New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLE HAS BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. ITS ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

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**AMPHOTROPIN.**—Amphotropin is hexamethylene-tetramine camphorate $((CH_2)_6N_4)_2.C_8H_{14}(COOH)_2$, a molecular combination of camphoric acid and hexamethylene-tetramine.

*Actions and Uses.*—Amphotropin combines the actions of camphoric acid and hexamethylenamin, but it is claimed that it is free from the subjective gastric disturbances produced by full doses of camphoric acid, and that it is effective in smaller doses (presumably by neutralization and increased solubility of the acid). It acts as a urinary antiseptic, and is said to promote the regeneration of sloughing epithelium. It increases diuresis and the elimination of uric acid in pathologic conditions.

Amphotropin should be useful in bacteriuria, in chronic and subacute cystitis and pyelonephritis, in nephritis and less pronounced forms of uric acid diathesis; and as a prophylactic against infections in the urinary tract, especially in connection with surgical treatment. It is contra-indicated in acute cystitis as well as in the initial stages of tuberculosis of the urinary organs.

*Dosage.*—0.5 Gm. (7½ grains) three times daily. If necessary the dose may be increased to 1 Gm. (15 grains) three times daily.

Manufactured by Farbwerke vorm. Meister Lucius and Bruening, Hoechst a.M., Germany (Farbwerke-Hoechst Co., New York). U. S. patent No. 1,064,227 (June 10, 1913; expires 1930). No U. S. trademark.

*Amphotropin Tablets.*—Each tablet contains amphotropin 0.5 Gm. (7½ grains).

Amphotropin is prepared by interaction of a solution of hexamethylene-tetramine and of camphoric acid in a suitable organic solvent and isolation of the resulting product.

Amphotropin is a light, white crystalline powder, soluble in water, alcohol and chloroform, but almost insoluble in ether and benzene. The aqueous solution possesses an acid reaction.

If 10 Cc. of a saturated aqueous solution of amphotropin be treated with 3 Cc. of dilute sulphuric acid a white precipitate will be formed, which after washing and drying should melt at 186°.

If the filtrate from the above precipitate be heated the odor of formaldehyde will be apparent. If the same solution be made alkaline with sodium hydroxide and heated, ammonia will be evolved.

An aqueous solution (1 : 20), which should be clear, should not be changed by saturation with hydrogen sulphide or the addition of barium chloride solution.

If an aqueous solution of amphotropin be treated with dilute nitric acid it should become not more than opalescent.

If an aqueous solution be mixed with an equal volume of sulphuric acid, and then a solution of ferrous sulphate be superimposed, no coloration should appear at the zone of contact of the two solutions.

If amphotropin be ignited, no residue should remain.

If from 0.2 to 0.3 Gm. of amphotropin be weighed into a flask, and dissolved in from 30 to 40 Cc. of a mixture of equal parts of water and alcohol, the titration of this solution with normal alkali, using phenolphthalein as indicator, should indicate the presence of an equivalent of from 41.5 to 42 per cent. camphoric acid (1 Cc. normal alkali is equivalent to 0.09931 Gm. camphoric acid).

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**New Books.**—Herodotus relates that Xerxes wept at the sight of his army, which stretched farther than the eye could reach, in the thought that of all these, after a hundred years, not one would be alive. And in looking over a huge catalogue of new books, one might weep at thinking that, when ten years have passed, not one of them will be heard of.—Schopenhauer.

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SATURDAY, FEBRUARY 28, 1914

## THE MODIFICATION OF FATS DURING ABSORPTION

It has long been believed that the problem of the absorption and distribution of fats in the body is one of relative simplicity in comparison with the question of the metamorphosis and fate of the other foodstuffs that enter into the diet of mankind. Briefly stated, the formula of the behavior of fats reads as follows: The processes of fat digestion result in the production of fatty acids and glycerol, soaps also being formed if the conditions under which alkali is contributed in the intestine are favorable. These various products somehow pass through the alimentary wall, where neutral fat is found again in the form of very fine globules suspended in the beginnings of the lymphatics. Unlike the products of protein or carbohydrate digestion, which are carried to the liver in the portal blood, the fat fragments are resynthesized into true fat at the very seat of their absorption, and are transported by way of the thoracic duct directly into the blood-stream, leaving the latter again in a manner that has not yet been precisely determined.

Substances such as mineral oil and petrolatum, which are physically almost identical with fats, are not absorbed even when introduced in the form of the finest emulsion. The intestine rejects the paraffin and takes up the fat. It likewise in the main excludes the undesirable wool-fat. How this physiologic discrimination between a true nutrient (fat) and an undesirable hydrocarbon (petrolatum) occurs is best explained by the fact that fats cannot be absorbed as such, but must first be converted, like other foodstuffs, into derivatives which can be absorbed in a state of solution.

Fats differ from proteins and carbohydrates in that the products of their digestive cleavage are promptly rebuilt before they leave the intestinal wall and enter the circulation. Whether all of the fat that is thus absorbed finds its way to the blood-stream or whether some small fraction is utilized or broken down in the tissues of the intestinal wall cannot be answered definitely. It is commonly assumed, however, that the large fraction which actually appears in the lacteals is for the most part identical with the fat of the ingesta. This would explain the fact that when unusual fats are taken as food they may sometimes be detected subsequently stored in the depots of the tissues. We have rarely stopped to ask how it happens that the tissue-fats maintain the rather characteristic similarity of composition, despite undoubted variations in the texture and make-up of the food-fat. Dr. Bloor[1] of the Washington University Medical School in St. Louis has presented evidence of various changes in fats during absorption which make it seem probable that the intestine is able to modify their composition radically. The tendency of the changes observed is toward the production of a fat more nearly like the typical body-fat of the animal than the fat ingested. The modifications actually appear to be purposive, which was brought out by offering to the subjects fats widely different from the usual chyle-fat in hardness and in the nature of their fatty acids. For example, the melting-point of high-melting-point fats was lowered by the addition, proportional to its melting-point, of an unsaturated fatty acid, probably the softer oleic acid. Again, an elevation of the melting-point and other chemical changes of a low-melting-point fat, like the liquid olive-oil, were brought about by the addition of the harder saturated fatty acids.

These facts, showing the general tendency toward the production of a uniform chyle-fat, presumably the characteristic body-fat of the animal, place the purpose of the peculiar mechanism of fat absorption in a new light. Apparently, it serves to permit adaptive changes, and reveals one more of the physiologic devices by which the composition of the organism tends to approach a uniform type.

1. Bloor, W. R.: Fat Absorption: III, Changes in Fat During Absorption, Jour. Biol. Chem., 1914, xvi, 517.

## DEVELOPMENT OF SEASIDE RESORTS

For many years the nations of continental Europe have given consideration to the development of seaside resorts to which the peculiar geographic and climatic features of their respective countries have lent occasion. Americans rarely stop to realize the extent to which the possibilities of these numerous localities along an extended and varied coast-line have been recognized and developed abroad with a combination of business tact and hygienic insight. In this country the exploitation of the seashore has been left largely to chance; at any rate it has rarely received any helpful stimulus or cooperation from the government, and still less consideration in the way of desirable supervision. In this respect we are citing only one of many activities the participation in which is left in the United States to private initiative, whereas in European countries it is likely to be fostered or enforced by the intermediation of the state.

Data collected by the Prussian statistical bureau furnish interesting figures in regard to the increasing popularity of the seaside resorts of this great German province and of the entire German empire. The number of

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these acknowledged resorts has grown in Prussia from 31 in 1880 to 156 at the present time; in Germany as a whole, with its comparatively small coast-line, there are to-day no less than 184 localities in which the possibilities of the seaside are publicly developed in some degree. It is estimated that the total number of persons who annually visit the seaside resorts of Germany for recuperation or the restoration of health exceeds half a million.

The advantages to be derived from a temporary residence in the vicinity of the seashore are receiving growing appreciation everywhere. The mere change of scene and surroundings has long been recognized as a potent factor in keeping up the vigor, and this is particularly true of persons in whom temperamental peculiarities are likely to bring about a depression incident to monotony of life and climate. The seashore has long attracted those who enjoy a delightful summer climate and seek rest and recreation as an adjunct of good health rather than more distinctively curative effects. To-day, however, the therapeutic possibilities of seaside resorts are being developed and exploited to a degree that could not have been anticipated a generation ago. Whereas we, in the United States, have hitherto given little thought to this feature of the seaside program, in Germany it has become a matter for scientific study and official concern. Attention has been centered on the favorable action of the dust-free air of the strand, with its moisture, salinity and freedom from atmospheric movements. The utility of the bathing in relation to a great variety of pathologic conditions has been pointed out; the special indications for the enjoyment of the unique insolation have been noted. To all of these natural advantages, of which the physical virtues are unquestionably overemphasized in print and the psychic effects underestimated, there have been added a variety of additional agencies that can be applied in the interest of health. Thus the largely visited seashore communities have witnessed the construction of buildings where warm seabaths, mud-baths, etc., can be offered. In many of the localities in Germany special hospitals, sanatoriums and convalescent homes have been erected in the neighborhood of the shore, so that routine medical treatment can be combined, in every detail of refinement, with the supposed curative virtues of the seashore climate. Further than this, the period of possible residence has been prolonged in many of these places so that it now extends over more than the summer season; and the same shore has thus become a winter- as well as a summer-resort.

Any institution or locality which attracts persons, both sick and healthy, from far and wide, ought to be subjected to rigorous hygienic inspection by competent authorities. This is desirable, both in the interests of public health and in justice to all the parties concerned. In this respect our German competitors have quite outdistanced us. For nearly a century the bath-resorts of Prussia have been subject in some degree to the inspection or supervision of the officials entrusted with the problems of the public health.[1] Americans might differ as to the wisdom of relegating so large a measure of authority to the central government in respect to community life and business conduct; but the effect has been a wholesome one abroad in the way of encouraging growth, particularly by enforcing such restrictive measures and advising such constructive projects as most progressive balneologists would agree on. The decrees of the German authorities have included considerations of every aspect of sanitation, of provision for unexpected emergencies and epidemics, of arrangements for the comfort of visitors and patients, with the obvious intent of attracting attention. No essential detail is too insignificant to receive emphasis. In one report is emphasized the necessity of providing clean ice, skilled nurses, a suitable supply of drugs, receptacles for sputum, etc. The government has further permitted the assessment of a *Kurtaxe* on guests in furtherance of the projects which require public assistance rather than private capital.

The good that is accomplished in the way of promoting health, enjoyment and recovery from disease by the modern development of the seaside as a climatic and institutional agency is undoubted. One wonders whether there is not a far greater opportunity for the development of some of our own natural coast resources for the public welfare than has been assumed heretofore. The aim should always be to reach every group of our population, so that the less favorably situated as well as the more opulent might reap at low cost the advantages which a favorable climatic location has vouchsafed. Even if the seashore hobby were worshipped like a fetish, it could do little else than good; for whatever encourages the outdoor life of our people amid a hygienic environment is likely to be wholesome.

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## NEW POINTS OF VIEW REGARDING TRICHINOSIS

Trichinosis is a pathologic condition regarding the ultimate etiology of which the facts are clearly made out. The sources of infection with trichinae are well recognized and the wanderings and biologic behavior of the parasites in the body of their host are adequately ascertained. The hygienic aspect of the invasion of man by this species of parasitic roundworm is now fully appreciated, although there has been much debate in regard to the most satisfactory and economic way of preventing the disease.

The prevailing view in regard to the immediate cause of the pathologic symptoms manifested both by human patients suffering from trichinosis and by the numerous

1. This statement is based on an authoritative review of the German seaside resorts, edited by Geheimer Ober-Medizinalrat Dr. R. Abel of Berlin; see Abel, R.: Die gesundheitlich wichtigen Verhältnisse und Einrichtungen der deutschen Seebadeorte (mit Ausnahme der mecklenburgischen Seebäder), Vrtljschr. f. gerichtl. Med., 1913, xlvi, Supplement-Heft, Einleitung, p. xi.

animals which are subject to this infection takes into account chiefly or solely the mechanical disturbances set up by the parasites. It is currently believed that the localized encysted larvae and the wanderings of the embryonic forms of the muscular worms in various parts of the body suffice to account for the symptoms which attend the disease. Thus there may be intestinal upsets while the organisms are still in the alimentary tract; muscular pains after the muscles have become invaded by the parasites; functional disturbances referable to the localized damage done in these various ways, and, finally, reactions which are clearly reflex in character and supposedly occasioned by the irritation provoked by the presence of the parasites in the sensitive tissues.[1]

Thanks to the careful investigations of Dr. Flury[2] in the pharmacologic institute at Würzburg, which, under Faust's leadership, has contributed so much of importance regarding animal poisons, a new point of view has been introduced into the consideration of the symptomatology of trichinosis. Let us take into account, prior to a review of Flury's findings, how manifold the clinical manifestations of this disease may be and how difficult it thereby becomes to explain them from the purely mechanical theory of pathogenesis hitherto tacitly adopted. In addition to the symptoms related to the stomach and intestines, to vomiting and diarrhea, there may be muscular pains even before the muscle is invaded. Then come the myositis and the localized muscular symptoms. Edema makes its appearance at points remote as well as near to possible places of parasitic invasion; extreme fatigue, respiratory trouble and dyspnea may supervene, and capillary hemorrhages, alterations in the blood-picture, violent temperature fluctuations, extreme cachexia and other conditions arise to be explained by any adequate theory. Flury has demonstrated that poisonous products arise in connection with the evolution of the trichinae, precisely as it was shown some time ago that certain intestinal worms liberate toxic substances which are by no means to be overlooked even if the organisms themselves do not leave the lumen of the alimentary tract.[3]

The toxic consequences of infection with trichinae, however, are not to be sought solely in the poison products derived from the worms themselves. It is further necessary to take into account the chemical products which arise from the degradation of the invaded and damaged muscle tissue. It is the combination of such toxic factors that gives rise to the characteristic disease manifestations. This is clearly indicated by the fact that Flury has been able to initiate and imitate the varied symptoms already enumerated in animals by feeding them with the toxic extracts of trichinosed flesh. Obviously, in such a procedure the worms as such, that is, as living organisms, are not concerned; and thus the entire symptom-complex of trichinosis is referable to an intoxication of the host by pharmacologically active chemical compounds.

The poverty of infected muscle-tissue in glycogen throws a side-light on the biology of the trichina parasite. Like the related intestinal worms, it requires an abundance of available energy, preferably the easily assimilated carbohydrates, to facilitate the rapid metamorphoses and developmental changes that the trichinae undergo. For this reason, apparently, the young trichinae seek the muscle-tissues, which normally furnish an excellent store of glycogen. The liver and kidneys of infected hosts have also been found deprived of this carbohydrate. That the muscle-cells are profoundly altered is indicated by an undue accumulation of creatin and purin compounds observed in them; and the urine of infected animals with its disturbed partition of nitrogenous constituents bears further testimony to the marked chemical upset which is experienced.[4]

Trichinosed muscle actually contains highly active muscle poisons, which can provoke symptoms of rigor and tonus. Perhaps it is the purin derivatives which are here responsible, just as the volatile acids yielded by the trichinae themselves are chargeable with the symptoms of local irritation like the diarrhea and vomiting. Basic products of muscle disintegration, derivatives of the toxic guanidin series, may be the instigators of the nervous phenomena, and still other active chemical constituents may occasion the hemorrhages and localized edemas. To-day this is no longer a novel assertion for the etiology of such pathologic manifestations.

It matters little, for the moment, that the actual toxic substances are not yet isolated and identified. There is enough novelty in representing trichinosis as a disease characterized by profound pharmacologic effects due to chemical rather than purely mechanical causes. We are thus prepared for a toxicologic as well as a morphologic chapter in future discussions of this still all too common malady.

1. For a discussion of some of these features see the paper by Van Cott and Lintz in this issue of THE JOURNAL, p. 680.

2. Flury, F.: Beiträge zur Chemie und Toxicologie der Trichinen, Arch. f. exper. Path. u. Pharmakol., 1913, lxxiii, 164.

3. Flury, F.: Zur Chemie und Toxicologie der Ascariden, Arch. f. exper. Path. u. Pharmakol., 1913, lxvii, 294. The Toxic Properties of Familiar Intestinal Parasites, editorial, THE JOURNAL A. M. A., May 4, 1912, p. 1377.

4. Compare Flury, F., and Groll, H.: Stoffwechseluntersuchungen an trichinösen Tieren, Arch. f. exper. Path. u. Pharmakol., 1913, lxxiii, 214.

## WATER-SUPPLY FROM THE GREAT LAKES

Advance sheets have been received of the report by experts of the International Joint Commission of the United States and Canada on the extent and causes of pollution of boundary waters of the two countries. As will be remembered, this commission was appointed in order to fulfil treaty obligations entered into between the United States and Great Britain, Jan. 11, 1909.

For the purpose of making investigations into the extent and causes of the pollution of boundary waters, the commission had the services of Dr. A. J. McLaughlin of the U. S. Public Health Service as chief sanitary

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adviser and director of field work, and Dr. J. W. S. McCullough, chief health officer of Ontario, and Dr. John A. Amyot, professor of hygiene of the University of Toronto, as consulting sanitary advisers. The field studies covered the period from April to October, 1913, and related to the waters of the Rainy River, parts of Rainy Lake and Lake of the Woods; that part of Lake Superior known as Thunder Bay; St. Mary's River; Lake St. Clair; Detroit River; portions of Lake Erie; the Niagara River; the western and eastern ends of Lake Ontario; the St. Lawrence River to Cornwall, and that portion of the St. John River which forms the international boundary between Maine and New Brunswick. Seventeen laboratories were operated at different points, samples of waters were taken from 1,400 sampling-points, and more than 19,000 samples were examined bacteriologically.

The report presents as indexes of pollution the average number of colon bacilli per hundred cubic centimeters of water, and the number of bacteria per cubic centimeter of water. In certain localities in the Great Lakes and in all their connecting waters dangerous sewage-pollution was shown to exist, but the bulk of the Great Lakes waters remains unpolluted. The studies show that the colon bacillus is practically never present in unpolluted waters, and that the normal bacterial content of the Great Lakes waters is less than 10 per cubic centimeter. In this report, Great Lakes water is classified as being relatively pure, and slightly, moderately, seriously or grossly polluted. The sources of pollution in the order of their importance are shown to be sewage from cities, sewage from vessels, and the inevitable pollution due to the run-off from various watersheds following rains and thaws.

The distance that pollution may travel in portions of the lakes was also demonstrated. At the mouth of the Detroit River, for instance, serious pollution was shown to extend normally more than 10 miles into the lake, and at other places sewage-pollution was shown to extend as far as 18 miles from shore.

The distance of cities from zones of pure water in the lakes, the great cost of extending pipe-lines to these zones, and the engineering difficulties involved in placing intakes beyond a 70-foot depth make it impracticable in most instances for those cities to secure pure water from the lake without treatment. According to the report, the present positions of intakes are such that there is not a single municipality using water from the Great Lakes, or their connecting rivers, which can be said to possess a safe water-supply without treatment. As might be expected, the waters most grossly polluted are in the connecting rivers, along which are situated large cities.

In spite of constant pollution shown to exist in certain locations and the changing areas of pollution along shores or at the mouths of rivers due to currents, the use of untreated water by municipalities was until very recently the rule. Some municipalities were found to lack purification plants because of overconfidence of officials in water which is "safe most of the time." The terrible epidemic of typhoid at Erie, Pa., during January and February, 1911, shows the fallacy of resting content under such conditions, since the water may change from safe to frightfully unsafe within a day. For a year previous to the epidemic, the water-supply of Erie had not shown serious pollution.

Lax or inefficient methods of purification are shown to exist in certain places. In others, while purification is attempted, it is not properly checked by daily bacterial control. The report emphasizes the fact that methods of purification must be up to date and thorough or they are worse than useless, because they engender a false sense of security. To be thorough, the efficiency of methods of purification must be controlled by systematic examination of the treated water, and in order to be complete, reports on water-supply must be based also on comprehensive sanitary surveys in order that sources of occasional as well as constant pollution may be known.

The report merits careful study by every one interested in questions of public health, and is especially important to the people of the municipalities bordering on the Great Lakes. When the general public awakens to the danger which lurks in impure water-supplies, lax and inefficient methods of purification will not be permitted.

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## "AUTO-INTOXICATION" AGAIN ASSAILED

That THE JOURNAL does not stand alone in the strictures which it has at times placed on the wanton use of the term "auto-intoxication"[1] is made clear by the attitude of Prof. J. G. Adami, the distinguished pathologist of McGill University in Montreal. In an address[2] delivered before the Medical Society of the City and County of Denver he made this statement: "The word, in short, should and must be banished from the vocabulary of all self-respecting medical men. It is absurd to jumble all these conditions into one common heap; our duty is to recognize and classify each different form — to analyze before we synthesize." The conclusion here represented follows from a consideration of the heterogeneous symptoms which have been ascribed in particular to the "auto-intoxication" of chronic intestinal stasis. Indeed, primarily, it is the delay of fecal matter in the bowel which is made responsible for the maladies which are vaguely pictured to arise because the retarded transit of the materials in the intestine results in the production of toxins, supposedly by bacterial agencies. The poisons are then absorbed in quantities too large to be handled satisfactorily by the organs

1. Alimentary Toxemia—Intestinal Auto-Intoxication, editorial, THE JOURNAL A. M. A., Dec. 6, 1913, p. 2070.
2. Adami, J. G.: Chronic Intestinal Stasis: "Auto-Intoxication" and Subinfection, Brit. Med. Jour., Jan. 24, 1914, p. 177.

charged with their detoxication or excretion. In consequence, these circulating menaces may produce degenerative changes in almost every tissue of the body and may lower the resistance of the organism to microbial invasion. There are obviously weak links in the chain of evidence for the foregoing supposition. Nevertheless the theory has been and still continues to be used to support all manner of curative schemes from sour-milk therapy to the surgical short-circuiting of the large intestine, as practiced by Sir Arbuthnot Lane.

The popularization, if not the actual introduction, of the word "auto-intoxication" began — so we are assured by Adami — in 1887, with a blunder by the French clinician Bouchard, "which has shown its fell influence all through these years up to the present moment." Self-poisoning has an obvious connotation and must be conceived, properly speaking, as due to substances arising within the organism — to products of metabolism or derivatives of disordered or disintegrated cells. We quite agree with Adami that products arising in the alimentary tract by the action of invading microorganisms are not auto-intoxicants in any strict sense. As he remarks, poisons originating in the digestive tube originate outside of the body every whit as much as if they had their origin in the vaginal chamber or on the skin. With "sublime heedlessness" Bouchard jumbled all varieties of harmful factors which find their way into the gastro-intestinal canal. Meat-poisoning, whether infective or chemical, internal strangulation and frank infections like typhoid fever and cholera, were put into a common category of intestinal "auto-intoxication"—a word which has become a shibboleth.

Adami has directed his criticism in particular against the propaganda of Sir Arbuthnot Lane. While granting freely that removal of a permanently damaged colon has in some instances given a new lease of life to patients, converting chronic and progressive invalidism into health and activity, the contention that the colon is merely a "common sink" must be challenged. Although the symptoms and diseases enumerated by Sir Arbuthnot Lane may follow intestinal stasis, at least a large proportion of them may originate independently of such stasis. It is a grave matter to start an epidemic of operative surgery purely on an empiric basis in which the vague conception of auto-intoxication plays a dominant part. Surely we cannot charge the true products of digestion with harmful propensities; and if we seek for something of toxic nature, tangible and demonstrated in the domain of the products of bacterial action of the foodstuffs, the evidence is far from convincing. Indol and phenols, amins of diverse varieties, and microbial toxins of uncertain origin give opportunity for a play of words that still falls far short of conviction. Adami has therefore offered another hypothesis.

Properly made blood-cultures are said to afford a high proportion of positive results in cases of continued intestinal stasis. May it not be that most, if not all, of Lane's symptoms which have not so far been demonstrated to be due to intoxication are such as follow subinfection, not necessarily originating through the lower bowel, but due to the carriage of bacteria through the mucous membrane at any point from the mouth to the anus? The "subinfection" theory of Adami demands a word of explanation. He contends that not only the lymph-nodes, but also properly prepared organs, such as the liver and kidneys of healthy animals, constantly afford cultures of pathogenic and non-pathogenic bacteria; that through the agency of leukocytes bacteria are constantly being carried into the system and as constantly being destroyed in the healthy animal; that with inflammatory conditions in the alimentary tract and greater accumulation of leukocytes in its walls there must be greater passage of these from the surface and more extensive carriage of bacteria into the system. Foci of active infection may thus be set up on the one hand, or on the other, a condition which Adami has termed "subinfection"; that is, the bacteria here do not multiply and produce suppuration, but become destroyed, and with their destruction liberate toxins which poison the cells immediately about them. The accumulative action of such poisons may bring about the death of certain cells and their replacement by fibrous tissue. Adami argues that it is more rational to regard the evil effects of intestinal stasis as, in the main, the result of conditions favoring subinfection and low forms of infection than as a result of chronic intoxication.

A discovery of the real cause of symptoms is the best forerunner of appropriate means of treatment. We ought no longer to be content with so unmeaning a term as "auto-intoxication" on which to build therapeutic procedures. Like the once-feared "deadly night air" of the malarial regions or the diphtheria-producing effluvia from damp soil or the sewer-gas bogey, the equally vague "auto-intoxication" must justify itself in fact or be relegated to the rubbish-heap of the past. The burden of proof now rests with those who still prefer to perpetuate the word.

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## THE WORK OF THE PHILIPPINE BUREAU OF HEALTH

The satisfactory experiences of the United States government in Cuba and Porto Rico, in its Panama Canal enterprises and in the administration of the Philippines has in good measure silenced the criticisms of those who have maintained that our nation is not adapted either in temperament or by training to undertake larger problems of colonization and expansion. Any one who desires to discover some of the elements which spell success in such great enterprises will find an opportunity in the history of the hygienic reforms which have been instituted in the various places in which the government has been called on to cope with new questions and master serious situations. The Annual

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Report of the Bureau of Health for the Philippine Islands,[1] which has just reached us, is replete with topics of interest and with evidences of the aggressive progress which has wrought such marvelous changes in our insular possessions.

The Director of Health, Dr. Victor G. Heiser, has remarked that a health official has three primary duties — the care of the well, the education of the people with regard to the conditions of health, and the advancement of life through sanitary science. These are exemplified in the recital of the many varied lines of activity which are conducted by the Philippine Bureau either directly or under its close supervision. Its diverse responsibilities would scarcely be surmised by those who have in mind the comparatively limited field which is usually covered by health organizations in the United States, and involves, essentially, the collection and compilation of vital statistics and the protection of the public from infectious diseases. To all this there have been added, in the Philippines, the distribution of public charities, the care of the insane, of orphans and of the aged, the administration of general and special hospitals, the hygienic and medical care of civilian employees (of whom there are over 12,000 in the service), the administration of the Food and Drugs Act, the duties of coroner's physician and police surgeon, the making of all physical examinations for entrance into public service, and the enforcement of plumbing and building ordinances and investigation of water-supplies, in addition to many other duties. Surely the successful performance of a work of this magnitude is a cause for national pride and an occasion for local congratulation.

Some of the details of last year's work by the bureau at Manila, as brought out in its fourteenth annual report, call for notice. Health conditions for the entire archipelago have been excellent. No serious epidemic of disease occurred, with the exception of isolated cases of plague in the city of Manila. A negative record of this sort represents not accident, but rather the triumph of efficiency, and shows what American organization can cope with. We have at times in these columns supported the contention now so frequently made by modern sanitarians that health is a purchasable commodity. Director Heiser gives concrete illustrations, in his report, of the definite lowering of the death-rate by the expenditure of a definite sum of money. For instance, the installation of artesian wells produced a measurable reduction in the death-rate and a great improvement in the sick-rate in communities in which such water was used. The regular routine use of quinin among the inmates of the Iwahig Penal Colony clearly demonstrated that, in spite of the fact that malaria of a most severe type is present on all sides and caused a high death-rate, yet the inmates of the colony are as healthy as the people of New York. The elimination of intestinal parasites among a given thousand inhabitants produces a marked improvement in general health. In Manila, in spite of the fact that small-pox is constantly imported and formerly hundreds died of it annually, there has not been a single death from this disease, because the population is kept thoroughly vaccinated. In those sections of Manila in which the housing conditions of the poor were improved there was a marked betterment in the general health. The lowering of the death-rate of the city of Manila when water from the uninhabited watershed is used and the increase in the rate when ordinary river water is used has been unintentionally demonstrated a sufficient number of times to leave no room for doubt that the new water system, in the number of human lives which it saves, is worth all that it cost.

Aside from the special medical emergencies that occur in the tropics, hygienic problems are raised in connection with the peoples of the far East which rarely need to be taken into account in continental Europe or the United States. They involve religious complications that must be managed with great tact. Thus the insanitary conditions caused by the large number of persons who daily visit Antipolo for the purpose of worshiping at the shrine of "Nuestra Señora de la Paz y Buen Viaje" still continues to be a great sanitary menace. Frequently ten thousand or more persons go daily to this town, which is not provided with adequate sanitary facilities for meeting the needs of so many persons. Shocking conditions ensue. At times when cholera or bacillary dysentery or other dangerous communicable disease is present, the opportunity for their spread is practically unlimited, as has been amply demonstrated by sad experiences in the past. Recommendations have constantly been made with a view to minimizing the danger, but thus far they have gone largely unheeded.

The death-rate of groups involving known probabilities of risk is always a matter of interest. Among the government employees for the fiscal year 1912-1913 it was 3.18 per thousand. Dr. Heiser asserts that, after reasonable allowance is made for the small number of very old persons in government employ and the absence of children therefrom, and the further fact that the employees are mostly preferred risks, the death-rate is still lower than that of the civilian population of any other country. The rate among Americans was 2.47 per thousand; the rate among Filipinos was 3.46.

Owing to the absence of the more dangerous communicable diseases in epidemic form the bureau has found opportunity to carry on a vigorous campaign of education, particularly by the distribution of literature on hygienic topics. A pamphlet on "Insects and Disease" is used for teaching in the public schools. The importance of proper habitations, the nature of beriberi, the poisonous fishes of the Philippines, dysentery, etc., are specimen topics which are discussed in print and receive wide circulation through the public press. Atten-

1. Heiser, V. G.: Annual Report of the Bureau of Health for the Philippine Islands for the fiscal year, July 1, 1912, to June 30, 1913, Manila, Bureau of Printing, 1913.

tion is beginning to be called to the patent-medicine evil which is now being exploited in the islands.

In connection with the characteristic diseases of the Philippines one thinks at once of beriberi which has so often been referred to in THE JOURNAL. It is estimated that at least 5,000 deaths are annually due to it in the islands; and if, as now seems probable, beriberi is the cause of the high infant mortality, at least another 20,000 may be charged against it. Although this terrible disease can be entirely prevented, without increasing the cost of living, by the now well-known simple expedient of substituting unpolished rice for white rice, it has been specifically recommended this year that in order to hasten the general use of unpolished rice a tax of 4 centavos a kilogram be placed on polished rice and that unpolished rice be admitted duty free. This would accomplish the purpose intended, by making polished rice too expensive for general use, thus limiting the sale to those well-to-do persons who can protect themselves by a diversified diet. In common with the Philippine health authorities we trust that the people of the islands, who have the eradication of the disease from our American possessions within easy grasp, will set an example to the rest of the Orient.

## Current Comment

### SOME FEATURES OF THE TECHNIC OF SMALL-POX VACCINATION

It is an undeniable fact that many persons have been led to expect disagreeable symptoms from vaccination because of the sequels, which at times in the past have made this procedure annoying to the subject. To-day it ought to be frankly admitted that for the most part these objectionable features are undoubtedly the result rather of the vaccination than of the vaccinia. Isadore Dyer[1] of the Tulane University College of Medicine in New Orleans has strongly urged the modification of certain common practices in connection with vaccination in the belief that they not only represent an unnecessary hardship and discomfort, but also contravene the best hygienic postulates in developing immunity to small-pox by producing vaccinia in the subject. Many operators leave the "after-treatment" of vaccination to the person concerned, indifferent as to the vesicles, the pustulation and the pit or pock-mark deemed the evidence of a successful vaccination. Dyer points out that when the vesicle forms at the site of inoculation the person inoculated with the virus has vaccinia, just as much as the person with a chancre has syphilis. He insists that the vaccination should stop at the vesicle, and that the pustule — a sign of local infection with pus organisms — should be prevented. In small-pox itself every effort is made to avert the appearance of pustulation and the consequent pitting. Why not in vaccination? If we admit that the vaccination process should stop at the vesicle and that pustulation is not only unnecessary but even undesirable, then the eruption should be checked before the objectionable stage by purposefully breaking the vesicle and treating the site antiseptically. Dyer remarks that the evils of vaccination are prevented by such a procedure; there can be no impetigos, and multiforme erythema and its congeners cannot result from pus absorption. Dyer ventures the contention that it would be better to make sure of the most complete protection against small-pox by making sure of the highest obtainable immunity against vaccinia. Would it not be better, he asks, to vaccinate the subject repeatedly until the vaccine no longer takes? In other words, if a vesicle forms, vaccinate again, at once rather than at the end of seven years, and continue vaccinating as long as a vesicle forms, until the person is completely immunized.

1. Dyer, Isadore: The Way to Vaccinate, Am. Jour. Trop. Dis. and Prev. Med., 1913, i, 447; abstr., THE JOURNAL A. M. A., Jan. 11, 1914, p. 330.

### STREPTOCOCCIC INFECTIONS IN THE PHILIPPINES

Streptococcic infections in man are reputed to be a rarity in the Philippines. On the authority of the chief of staff of the Philippine General Hospital, Dr. W. E. Musgrave,[1] streptococcic septicemia, streptococcic cellulitis, erysipelas, scarlet fever and even streptococcic sore throat are extremely rare conditions in the islands, and streptococcic metritis and peritonitis following childbirth have not been encountered in necropsy work in Manila. The most logical explanation, he adds, of the case with which infection may be avoided in both surgery and obstetrics is the rarity of the virulent streptococci, such organisms seldom being encountered in laboratory work, in the morgues, or in clinical work in the hospitals. It is an interesting fact, in view of this favorable aspect of the situation in respect to human cases, that streptococcic infection has now been demonstrated, by adequate diagnostic methods, to exist in horses in the Philippine Islands. The occurrence of strangles or distemper has repeatedly been recognized, but wider attention has been called to it through the work of the government veterinarians in isolating the offending organism, which has proved to be *Streptococcus equi*.[2] As usual, the energy of our American scientists in the far East has produced results.

### UNRESTRICTED USE OF PATHOGENIC BACTERIA

Some time ago the daily press was considerably aroused concerning what appeared to be an attempt at blackmail through mailing virulent germs to various wealthy persons, together with pleas for aid and the offer of an antidote or positive cure. Recently in Germany a man named Hopf was arrested on suspicion of having killed his wife by inoculation with pathogenic bacteria and the internal administration of arsenic. During the trial, information was brought out to the effect that he had probably on former occasions mur-

1. Musgrave, W. E.: Aseptic Midwifery in Manila, Bull. Manila Med. Soc., 1910, ii, 134.
2. Boynton, W. H.: A Note on Strangles in the Philippine Islands, Philippine Jour. Sc., B., Tropical Med., 1913, viii, 237.

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dered other members of his family in the same way. Before the criminal court in Frankfort he was charged with the murder of his father and his mother, two of his children and his first and second wives, and with the attempted murder of his third wife. All the persons killed had been heavily insured. Arsenic was found in the bodies of the children and the first wife, but the second wife he had cremated. He denied having inoculated his wives with pathogenic bacteria, and there was no post-mortem evidence that he had done so; but he stated that he had used such bacteria for experiments on dogs in connection with certain private studies, although he was not a bacteriologist or a medical man. The bacterial cultures were purchased in Vienna, because no German laboratory was willing to supply the cultures which he ordered, using the name of an alleged scientific institution. The jury found him guilty of murder in all the cases except those of his parents. Medical experts declared that the man was not insane. In Germany there is a law to prevent the sale or giving of pathogenic micro-organisms to unauthorized persons; it is reported that the Austrian authorities are about to adopt similar regulations.

## SUPPLICANT FOR EUTHANASIA RECOVERS

From time to time magazines and newspapers narrate the case of some unfortunate victim of disease or injury whose recovery is apparently out of the question and who is doomed to weeks or months of suffering while awaiting the slow progress of the disease and the seemingly inevitable outcome. Either the sufferer or some sympathetic friend for him, affected beyond endurance by the spectacle of prolonged and useless agony, appeals to the medical profession and to public opinion for a speedy and painless death. These cases are often discussed editorially in the newspapers and the question raised whether physicians should not be given the right and power to terminate an apparently hopeless illness and thus spare the victim a long period of pain, and the friends and relatives needless anguish through the witnessing of unavoidable suffering. The circumstances attending some of these incidents would at times almost seem to justify extreme measures to terminate a scene of helpless misery, yet the medical profession has never desired and will never accept the responsibility of acting in such cases as judge, jury and executioner. Entirely aside from the moral and sentimental objections which could be raised, physicians, better than any other class, know that apparently hopeless cases sometimes terminate in recovery and that the predictions of the most skilled and competent physicians are sometimes not fulfilled. The responsibility of deciding whether a given case is one which justifies the use of extreme measures to shorten the period of suffering would be too great for any one person to assume; neither would it be safe for society to permit such responsibility to be lodged in the hands of any profession or class. A recent newspaper dispatch strikingly illustrates the dangers of such a plan. According to a report, several years ago a clergyman's wife, suffering from a severe and apparently hopeless malady, begged in a letter published throughout the country for "scientific kindness" on the part of her attending physicians, which would terminate her sufferings and give her a painless death. She received many replies endorsing her argument that physicians should be permitted to put her and other similarly unfortunate patients out of their misery. Apparently, however, the lady is to-day very glad that her pleas did not prevail, as she is reported to have been completely restored to health by a surgical operation, and to be perfectly well.

## THE TRANSMISSION OF SURRA BY TABANID FLIES

How inseparably entomology has become linked to the study of medicine is again evidenced by the investigations in which the transmission of surra in the Philippine Islands has been under consideration. The dissemination of the trypanosome (*Trypanosoma evansi*) which is responsible for this animal disease has been charged to various species of flies, *Stomoxys calcitrans* being the only carrier generally suspected in our insular possessions. The veterinary division of the Bureau of Agriculture at Manila recently has practically eliminated this fly, however, from further consideration as an important factor in surra dissemination. On the other hand, the geographic and seasonal distribution of a tabanid fly, *Tabanus striatus*, marks this species as preeminently the most formidable blood-sucking fly in the Philippines.[1] By carefully planned experiments in which errors resulting from the use of naturally infected wild flies have been eliminated, *Tabanus* has now for the first time recorded actually been demonstrated as playing a rôle in the transmission of surra.[2] Bred horse-flies were employed for the first time in such attempts. Trypanosomes of surra were not found to be transmitted hereditarily in this species of fly. The maximum length of time that *Trypanosoma evansi* has been demonstrated microscopically in the intestine of the tabanus fly after feeding on infected blood is thirty hours; the organisms were found in the fly's dejecta two and a half hours after biting an infected animal; and suspensions of flies, when injected subcutaneously, were found infective for animals for a period of ten hours after the flies had fed on infected blood. Such entomologic details sound quite unlike the records of the study of infectious disease in the days when bacteria alone held the center of interest in pathologic research.

1. Mitzmain, M. B.: The Biology of Tabanus Striatus Fabricus, the Horse-Fly of the Philippines, Philippine Jour. Sc., B., Tropical Med., 1913, viii, 197.

2. Mitzmain, M. B.: The Mechanical Transmission of Surra by Tabanus Striatus Fabricus, Philippine Jour. Sc., B., Tropical Med., 1913, viii, 223.

**An Appreciation of Physicians.**—The distinguished physicians and surgeons, who by their discoveries and their self-sacrifice have done more than all others to mitigate the physical miseries of humanity, are less recognized and remembered, I have often thought, than any other benefactors of the race. Their names may have an unpleasant association with a disease or an operation, but they themselves pass out of sight, although the lives they led and the work they did, and their observation of human nature, are more interesting than those of many of the men about whom volumes have been written.—From "Early Memories," by Henry Cabot Lodge.

# Medical News

## DISTRICT OF COLUMBIA

### Washington

**Women's Clinic Opens.**—A women's auxiliary clinic has recently been opened at 1716 Thirteenth Street, N. W. The object of the institution is the treatment of women who are unable to engage the services of an outside physician.

**Red Cross Building.**—Plans for a Red Cross building in memory of the women nurses of the Civil War have been approved by the commission appointed by Congress to select a site. The property selected is that bounded by Seventeenth and Eighteenth Streets and D and E Streets, and is between the Corcoran Gallery of Art and Continental Hall. The plans provide for two stories and basement, an assembly hall on the first floor, a large museum in the basement and numerous offices. There is now available a fund of $700 000, $300,000 appropriated by Congress and $400,000 contributed by individuals.

## ILLINOIS

**Personal.**—Dr. William A. Cochran, Danville, has resigned as chief surgeon of the Soldiers' Home.

**Honors Pioneer Physician.**—Madison County Medical Society, headed by Dr. James L. R. Wadsworth, honored a pioneer physician of Southern Illinois by finding and restoring his grave and erecting a monument to Dr. Reuben Young Meack, one of the earliest physicians of Collinsville, who died in 1832.

**Medical Alumni Endorse President.**—At a meeting of the Medical Alumni Association of the University of Illinois, resolutions were adopted reaffirming the faith and confidence of the alumni in President Edmund Janes James, pledging him their unanimous and hearty support, congratulating him on his work, and hoping "that such diligent and painstaking service would be rewarded by a broader influence over the state."

**New Officers.**—Logan County Medical Society at Lincoln, February 12: president, Dr. Walter W. Coleman; secretary-treasurer, Dr. Harry S. Oyler, both of Lincoln.——Lincoln Physicians' Club, February 12: president, Dr. Carl H. E. Rembe; secretary-treasurer, Dr. Harry S. Oyler.——Perry County Medical Association at Du Quoin, January 21: president, Dr. Elmer J. Burch; secretary-treasurer, Dr. Rolla D. Pope, both of Du Quoin.

### Chicago

**School Dental Dispensaries.**—The Health Department appropriation for 1914 contains provision for the salaries of operatives of ten school dental dispensaries. During the last year, the dental inspectors examined 26,655 children, 24,334 with dental defects. In the dental dispensaries 26,929 treatments were given, 17,330 fillings were made, and 13,348 teeth extracted.

**To Study Plagues of China.**—President Harry Pratt Judson of the University of Chicago has been granted a leave of absence from March until November for a trip to China. He will be accompanied by a medical expert, and intends to gather data on the study and practice of medicine, and the methods in use for the protection of the public health in China. Dr. Judson is a trustee of the Rockefeller Foundation.

**Leper Found in Chicago.**—Charles Wallgren, a sailor and native of Sweden, formerly a worker in the South Chicago steel mills and a patient in the Cook County Hospital, was found to be suffering from leprosy, February 21. On February 13 he was brought to the hospital from the Illinois Steel Company's mills, and eight days later a diagnosis of leprosy was made by Dr. Frederick C. Harris and confirmed by Dr. J. A. Riley of the Department of Health. At present the patient is being isolated in a private room in the hospital. No decision has yet been reached as to the ultimate disposition to be made of the patient. He is said to be suffering from both anesthetic and tubercular leprosy.

**New Rules to Diminish Contagion.**—The current issue of the bulletin of the Department of Health, Chicago, announces that new quarantine regulations will be provided which will permit persons from families where contagious diseases exist to work as usual and to eat and sleep at home under certain restrictions. The rules proposed are as follows:

Diphtheria—General rules apply, except that teachers, or persons similarly employed, or milk dealers may not continue at work. Use of antitoxin urged. No visitors. Termination of quarantine only on microscopical proof of termination of the disease. Complete disinfection after two successive days show no disease present.

Scarlet Fever—Same as for diphtheria. Termination at the end of the "peeling" period, of discharge from ear and nose, of acute inflammation of the tonsils.

Measles—"Susceptibles" may use adjoining yard under observation if no others are using it. Persons who have had measles may go about business. Pupils or teachers must stay from school eighteen days after exposure.

Whooping-Cough—First two weeks patient isolated in house or yard. After then patient may go abroad if tagged with sign reading "Whooping-Cough" worn about the arm. No children in places of general assembly.

Infantile Paralysis—Same as diphtheria, with screen to shut out flies. Disinfection.

Streptococcus Sore Throat—Warning to milkman. Comparative isolation.

Chicken-Pox—Vaccination if possible; susceptibles must stay from school. Persons who have had it may attend on doctor's certificate.

Mumps—No warning cards. Practical isolation. Children must remain from school unless they have had disease.

On March 1, the city, which has been divided into one hundred school districts, each of which is detailed to a health officer and nurse, is to be merged into fifty field districts, each of which will have an assistant health officer in connection with contagious diseases. These districts are to be combined into twenty-five quarantine districts, each of which will have a quarantine officer, and each group of five quarantine districts is to be supervised by a health officer. Over these supervisory health officers will be six inspectors, all working full time, having quarters in the City Hall, under orders of the Commissioners of Health.

## INDIANA

**Health Officer Not Allowed Expenses for Driving Own Conveyance.**—The attorney-general has rendered an opinion to State Health Commissioner Dr. John M. Hurty, that a health officer is not allowed expenses for driving his own horse and buggy or motor-car while discharging his duties.

**Small-Pox in an Infant of Two Weeks.**—Two weeks after it was born the infant son of Ora Mix of Indianapolis broke out with small-pox. The mother broke out with the disease shortly after the birth of the child. The father was in the hospital suffering from small-pox at the time the child was born.

**Personal.**—Dr. William G. Ralston, Evansville, celebrated his ninety-fifth birthday anniversary, February 15.——Jack J. Hinman, Jr., has resigned as city chemist of Indianapolis to become assistant director of the epidemiologic laboratory of the University of Iowa, Iowa City.——Dr. Otis L. Schrock, Greenstown, who sustained a fracture of the skull when the sleigh in which he was riding was struck by a traction-car, February 15, is under treatment at the Grant County Hospital, Marion.——Dr. William F. Work, Charlestown, suffered a stroke of paralysis at New Smyrna, Fla., where he was spending the winter.

## IOWA

**Sanatorium Notes.**—The Story City Sanatorium is almost completed and will be opened about April 1.——Scott County has completed its sanatorium for tuberculosis, which will accommodate forty patients.

**Free Clinics for Schools.**—Free clinics for children attending the Wooster School, Sioux City, will be held every Tuesday and Friday at the Wall Street Mission. The examinations will be in charge of Dr. John P. Savage.

**Addition to Medical Library.**—Drake University has turned over its medical library of more than one thousand volumes to the state library. The legislature will now be asked to employ an assistant librarian for the medical department of the library.

**Wisconsin Professor Speaks in Iowa.**—Dean Charles R. Bardeen of the school of medicine of the University of Wisconsin, delivered the annual address of the University of Iowa chapter of Sigma Xi, February 18, on "The Effect of Physical and Chemical Agents on Development."

**Veteran Physicians Honored.**—On January 20, the Bremer County Medical Society held a reception and banquet in honor of Drs. Thomas D. Ford, Plainfield, and David S. Bradford, Janesville, the two veteran physicians of the county, at which a chair was presented to each of the beneficiaries.

**Non-Faculty Members Barred from University Hospital.**—New regulations have been put into effect by the State Board of Education concerning the University Hospital, which are said to have the effect of excluding Iowa physicians who are not members of the faculty from the use of the hospital.

**Linn County Physicians Approve Reputable Advertising.**—At the meeting of the Linn County Medical Society at Cedar Rapids, February 15, a resolution was passed unanimously endorsing and commending the "*Cedar Rapids Tribune* in its

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policy of accepting nothing but reputable advertising and refusing to print the claims of various patent medicines and the insidious and preposterous claims of the so-called 'quacks' and 'fake' medical institutions."

**New Officers.**—Des Moines Hospital Association, January 16: president, Dr. Erwin Schenk; vice-president, Dr. Charles E. Holloway.——Adair County Medical Association at Greenfield, January 8: president, Dr. Ira J. Gibson, Fontanelle; secretary, Dr. James A. Harper, Greenfield.——Blackhawk County Medical Association at Cedar Falls, January 13: president, Dr. Frank T. Hartman, Waterloo; secretary, Dr. Ida G. Rhoades, Cedar Falls.——Henry County Medical Association at Wayland, recently: president, Dr. D. S. McConnaughey, Wayland.

**Personal.**—Dr. Isaac M. Lovett, Lineville, was thrown from his buggy in a runaway accident, February 18, and seriously injured.——Dr. Herman A. White, Clinton, fractured his arm while cranking his motor-car, February 16.——Dr. Charles H. Preston is reported to be critically ill at his home in Davenport, from cerebral hemorrhage.——Dr. Daniel D. Jay, Pulaski, has disposed of his office and residence and will move to New Mexico.——Dr. Clara B. Earley, Mt. Pleasant, a member of the staff of the Mt. Pleasant State Hospital, has resigned her position to accept a similar one with the Minnesota State Hospital, St. Peter.

## MARYLAND

**Report of the State Sanatorium.**—The annual report of the board of managers of the Maryland Tuberculosis Sanatorium recommends that the state care of the tuberculous be extended. Hospitals for advanced cases in the centers of population are most urgently needed for this work. Especially is some place needed for negroes in advanced stages of tuberculosis. The total population of the sanatorium is now 435 beds.

**For Negro Betterment.**—To discuss the betterment of the sanitary condition of the negro in Baltimore, a meeting of prominent white persons and many colored residents was held in McCoy Hall, Johns Hopkins University, February 17. One of the principal topics discussed was the need of a hospital for the treatment of chronic tuberculosis among negroes. A bill will be introduced in the present General Assembly asking for an appropriation to establish a sanatorium for the treatment of negro consumptives.

**The Insane in Maryland.**—The annual report of the Lunacy Commission shows that the total number of insane persons in Maryland on September 30 of last year was 4,754, of whom 4,500 were in state, county or private institutions, 54 on the waiting list of the superintendent of city charities, Baltimore, and 200 on the waiting list of the Rosewood Training School. The ratio of the insane to the population was 1 to 310 in 1912, and in 1913, 1 to 287. The percentage of alcoholics to the total number, last year, was 12.7.

**Small-Pox Epidemic.**—There has been an epidemic of small-pox at Warren, Baltimore County, where it was necessary to quarantine the town and place the situation in charge of the State Board of Health.——Small-pox in the city of Baltimore has been spreading at a greater pace than at any time during the past year. The total number of cases are now nearly a hundred. The most serious turn of the situation has been the number of cases among white men who have contracted the disease and have still been going to their places of business. Quarantine Physician Richardson has 81 cases of small-pox in the hospital and it has been necessary for Health Commissioner Nathan R. Gorter to rent additional quarters adjoining the Health Department as detention rooms for small-pox cases. The health commissioner is urging general vaccination.

## NEW HAMPSHIRE

**New Pension Board.**—Dr. Albert F. Mulvanity has been appointed pension examiner, and Drs. Benjamin G. Moran and Samuel S. Dearborn have been reappointed medical examiners for Nashua.

**Health Day.**—Meetings to consider public health problems were held all over New Hampshire, January 16, in accordance with the proclamation of Governor Felker, who expressed a hope that "it would serve to focus thought and stimulate action along the lines of prevention and resistance of disease, concentrate action and result in greater efficiency of purpose."

**Hospital News.**—The regents of the State Board of Medical Examiners have approved the training schools of the Wentworth Hospital, Dover; Mary Hitchcock Memorial Hospital, Hanover; Elliot, Sacred Heart, Beacon Hill and Notre Dame hospitals, Manchester; The State Hospital, Margaret Pillsbury General, and Women's Memorial hospitals, Concord; County Hospital, Goffstown; Cottage Hospital, Woodsville; Memorial Hospital, North Conway; Laconia Hospital, Franklin; Morrison Hospital, Whitefield; Memorial Hospital, Nashua; Cottage Hospital, Exeter, and the C. F. Wright Memorial Hospital, Newport.

**Bulletin on Tuberculosis.**—The January, 1914, number of the *Quarterly Bulletin* published by the State Board of Health of New Hampshire is devoted entirely to the subject of tuberculosis. Statistics are given as to the occurrence of tuberculosis in the state for a period of twenty-eight years. The remainder of the report is devoted to a description of the disease, methods of prevention, and how individuals with the disease and those around them should live and conduct themselves in order to arrest or cure the disease and prevent its spread. The instructions are practical and easily understood, and the bulletin makes a valuable educational document in the campaign against tuberculosis in the state.

## NEW JERSEY

**New Officers.**—Health Officers of the State of New Jersey, at Trenton, January 23 and 24: president, Dr. Frederick W. Sell, Rahway; secretary-treasurer, Dr. C. H. Wells, Montclair, and chairman of executive committee, Dr. J. Alexander Browne, Paterson.——Physicians' Automobile Association of the Oranges, February 17: president, Dr. Edgar Calvin Seibert; secretary, Dr. Charles Dane, both of Orange.——Newark Medical League, tenth annual meeting, January 19: president, Dr. Louis L. Davidson (reelected); secretary, Dr. Hyman S. Emil.——Newark City Hospital Alumni Association, January 27: president, Dr. Frank W. Cornwell, Plainfield; secretary-treasurer, Dr. Raymond J. Mullin, Newark.

**Personal.**—Dr. Edward Mulvaney, Jersey City, suffered amputation of one finger of his right hand as the result of a Roentgen-ray burn.——Dr. Florentine M. Hoffman has resigned as city physician of New Brunswick.——Dr. Thomas W. Harvey, Jr., East Orange, has been elected president of the Infant Hygiene League of the Oranges.——Dr. Daniel Strock has been elected secretary of the Camden City Dispensary, vice Dr. H. Genet Taylor, resigned, after forty years of service.——Drs. William H. Pratt, Edward W. Rossell, Howard F. Palm, Emma M. Richardson, Arthur J. Casselman and Robert L. Sheppard have been appointed members of the staff of the dispensary.

## NEW YORK

**Sanitary Supervisors.**—The names of the six new sanitary supervisors, authorized by the public health law, are announced. They include Dr. John J. Mahoney, supervisor of public health of Jamestown; Dr. Charles S. Prest, Waterford; Dr. Charles C. Duryea, formerly mayor of Schenectady; Dr. Otto R. Eichel, Buffalo; Dr. T. Wood Clarke, Utica, and Dr. Francis S. Swain, Corning. All these appointments are made pending the civil service examinations to be held March 7.

**Examinations for Sanitary Inspector.**—The State Civil Service Commission will conduct examinations for the position of sanitary inspector in various cities of the state, March 2. The applicants must be citizens, physicians, and between 28 and 60 years of age. They must devote their entire time to sanitary inspection. They must have served as health officers for four years, received competent instruction, hold diplomas or satisfy the board as to their qualifications.

**Doctors Oppose Nurses' Bill.**—On February 17 a hearing was given on the Seely Bill which prescribed rules for the practice of nursing and prohibits the use of the term "nurse" except by those who have had at least a two years' course in a hospital training school. Thirty-eight of the important hospitals of New York appeared in opposition to the bill. It was held by the opponents of the bill that its passage would cause a great deal of suffering among poor people who could not pay $25 a week for a trained nurse.

### New York City

**Bellevue Overcrowded.**—There are 1,404 patients in the institution. The nearest approach to the present condition was during similar weather in March, 1911, when there were 1,330 patients under treatment. All the corridors and small rooms have been pressed into service, and all extra beds and bedding are in use.

**Women Ambulance Surgeons.**—For the first time, it is said, in the history of Bellevue Hospital, women have qualified as ambulance surgeons. Drs. Helen L. Balliser and Anna Tjonslands passed the examinations held February 13, and are eligible for appointment July 1. They are both graduates of Cornell Medical School.

**Memorial to Surgeon of Titanic.**—A memorial fund has been presented to St. Vincent's Hospital in honor of Dr. William Francis Norman O'Laughlin, surgeon of the *Titanic*, who went down with the ship. The fund is to be used in remodeling and equipping the emergency department where a tablet in memory of Dr. O'Laughlin will be placed.

**Milk Dealers Must Conform to Standards.**—On Oct. 28, 1913, the Board of Health ordered pasteurization of all milk sold in this city except that conforming to the standards laid down for Grade A. A number of milk dealers have delayed installing pasteurizing apparatus and have not complied with the order of the department by February 1. At a meeting of the Board of Health a resolution was adopted denying permission to delay compliance with the provisions of the sanitary code, relative to pasteurization and the labeling of the milk-supply.

**Aliens a Burden on the City.**—The report of the Hospital Investigating Committee to the Board of Estimate shows that the city spends more than $1,000,000 a year for the care of aliens in its hospitals and almshouses, and nearly $400,000 is spent on aliens who have been in the United States less than five years. The report states that a large proportion of these aliens were afflicted before they came to this country with the diseases for which they are now being treated and that if the United States Public Health Service had sufficient inspectors and facilities at Ellis Island many of these aliens would not have been allowed to enter the country. The report further declares that the State Board of Charities has not fully exercised the function of removing aliens delegated to it by law. It has in known instances failed to examine a substantial proportion of the aliens referred to it for investigation and deportation. The present power of removal has not afforded adequate relief to the city, nor does it seem likely to do so.

## OHIO

**State Board Moved.**—The State Board of Health has moved its offices from the Hartman Theater Building to Page Hall, at the Ohio State University, Columbus.

**Sanatorium Opens.**—The Franklin County Tuberculosis Sanatorium near Columbus, with a capacity of 120 patients, opened February 16, and twenty-nine patients were admitted.

**Testimonial to Dr. Gilliam.**—On February 16, the Columbus Academy of Medicine tendered to Dr. D. Tod Gilliam a testimonial banquet, at which he was presented with a silver loving-cup suitably inscribed.

**Contagious Hospital Provided.**—An ordinance has been passed by the city council of Canton giving the Board of Health authority to expend $5,000 to provide the city with a hospital for contagious diseases.

**New Officers.**—Union Medical Association, one hundred and sixty-second session, at the State Hospital at Massillon, February 11: president, Dr. Henry C. Eyman, Massillon; secretary-treasurer, Dr. John H. Seiler, Akron (reelected for a seventeenth term).

**Society Enlarges Its Field.**—The Muskingum County Medical Society has been reorganized as the Academy of Medicine of Muskingum County, and dentists, chemists, sanitary engineers and other persons who are engaged in scientific pursuits will be admitted as honorary members. About twenty new members were admitted at the first meeting of the reorganized society.

**Personal.**—Dr. William E. Wheatley, Lorain, fell on the ice February 16, fracturing his right arm at the wrist.——Under the reorganization of the Dayton Health Department, Dr. Alvin L. Light became City Health Commissioner, and has appointed six district physicians and one epidemiologist.——Dr. Morgan J. Jenkins, Plain City, is ill with pneumonia at the Grant Hospital, Columbus.

### Cincinnati

**Banquet German Chemist.**—Dr. Wolfgang Ostwald, professor of chemistry in the University of Leipzig, Germany, was given a banquet February 11, by the Cincinnati Chemical Society and the Cincinnati Society for Medical Research.

**Personal.**—Dr. Charles F. Sanborn, Chicago, has assumed charge of the Cincinnati General Hospital. Dr. Arthur C. Bachmeyer, formerly superintendent, has accepted the superintendency of the Tuberculosis Hospital.——Dr. Archibald I. Carson has been appointed clinical professor of surgery of the University of Cincinnati.——Dr. Gustave L. Krieger has succeeded Dr. Robert W. Bledsoe, resigned, as clinical instructor in otology and laryngology.——Dr. H. Kenham Durham has been elected president of the Cincinnati Antituberculosis League.

## OKLAHOMA

**New Medical Board.**—The governor has appointed a new medical board for the State Hospital for the Insane, which consists of Dr. Philip F. Herod, Alva; Dr. Elmer C. Ludlum, Carmen, and Ralph A. Workman, Woodward.

**Personal.**—Dr. L. M. Martin, Newkirk, sustained a fracture of the scapula when his motor-car overturned recently.——Dr. Edward F. Hurlbut, Chandler, who suffered injuries in a runaway accident recently, has recovered.——The suit against Dr. Fred R. Sutton, Bartlesville, for malpractice, was suddenly terminated, February 13, on the motion of the lawyer for the plaintiff, who appreciated that his client had failed to make good the allegations.

**New Officers.**—Pontotoc County Medical Society at Ada: president, Dr. Sidney M. Richey, Francis; secretary-treasurer, Dr. Isham L. Cummings, Ada.——Rogers County Medical Society at Claremore: president, Dr. J. C. Bushyhead, Claremore; secretary-treasurer, Dr. Walter A. Howard, Chelsea.——Greer County Medical Society at Mangum: president, Dr. Ney Neel; secretary-treasurer, Dr. General Pinnell, both of Mangum.——Custer County Medical Society: president, Dr. Montie C. Comer, Arapaho; secretary-treasurer, Dr. Stirley C. David, Weatherford.——Jackson County Medical Society at Altus: president, Dr. Emory S. Crow, Olustee; secretary-treasurer, Dr. Dave L. Garrett, Altus.——Mays County Medical Society: president, Dr. W. C. Bryant, Choteau; secretary-treasurer, Dr. J. R. Preston, Adair.——Texas County Medical Society: president, Dr. William H. Langston; secretary-treasurer, Dr. Rutherford B. Hayes, both of Guymon.——Tulsa County Medical Society has recently been incorporated at Tulsa by Drs. Walter E. Wright, W. Albert Cook and Paul R. Brown: president, Dr. William W. Brodie; secretary-treasurer, Dr. Paul R. Brown, both of Tulsa.——Osage County Medical Society: president, Dr. Divonio R. Worten; secretary-treasurer, Dr. Rosco Walker, both of Pawhuska.

## PENNSYLVANIA

**Change at the Naval Hospital.**—Rear Admiral Charles F. Stokes, who is to be the new medical officer assigned to the Naval Hospital, will take charge March 1, and Medical Inspector George A. Lung, present officer in charge, goes to the War College, Newport, R. I.

**Communicable Diseases.**—An epidemic of scarlet fever at Easton, among the pupils of the Centenial School building resulted in the closing of the building, February 18. The Health Board announced that physicians who failed to report contagious diseases within twenty-four hours will be prosecuted. An outbreak of mumps closed the Garret Hill class in Radnor Township near Rosemont, February 16.

**Personal.**—Dr. William E. Matthews, Johnstown, has been appointed inspector of midwifery for Cambria County.——Dr. Charles P. Henry has been elected health officer of Reading.——At a meeting of the Lycoming County Medical Society held at Williamsport, a movement for a medical club in Williamsport, was launched, and a committee consisting of Drs. John P. Harley, Horace G. McCormick and Robert F. Trainer was appointed to take steps preliminary to organization.

**Portraits of Women Physicians Dedicated.**—In order to perpetuate the memories of the first three deans of the Women's Medical College of Pennsylvania, an alcove in the Administration Building was dedicated with appropriate ceremonies, February 18. Portraits of these pioneer women workers in medical science were donated by the Alumnae Association: Dr. Ann Preston, graduated in the first class of the college in 1852; Dr. Emmeline H. Cleveland was graduated in 1853, and Dr. Rachel Bodly was dean of the college from 1874 to 1885. Dr. Clara Marshall, the dean, delivered the dedicatory address.

### Philadelphia

**Personal.**—Dr. Joseph C. Doane, formerly chief resident physician of the Presbyterian Hospital, has accepted a position as head physician of the Shamokin State Hospital.——Dr. Samuel Stalberg, charged with refusing to answer a legal summons to appear in court, denied that he had received such summons and was exonerated by the magistrate.

## TEXAS

**New Clinics Open.**—The Methodist University has established a free clinic in North Dallas, in the basement of the

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Neighborhood House at Cedar Springs and Harwood Streets. In addition, the clinic has the services of a district nurse. ——The new Houston Antituberculosis Clinic was opened January 17. A nurse is stationed at the clinic, and two physicians visit the clinic on three days each week, to examine cases of suspected tuberculosis.

**Personal.**—Dr. Jonathan M. Bell, mayor of Wichita Falls, is critically ill with peritonitis at his home.——Dr. B. M. Vick has been elected surgeon of the Galveston, Houston and San Antonio Railroad at Valentine, to succeed Dr. George B. Graves, resigned.——A fire at Caddo Mills destroyed the office of Dr. Walter C. Welch, with a loss of $1,000.——Dr. J. A. Orr has been appointed assistant surgeon in the U. S. P. H. S. and has been placed in charge of the newly established offices at Port Aransas.

**New Officers.**—Titus County Medical Society: president, Dr. Samuel C. Broadstreet; secretary-treasurer, Dr. William H. Blythe, both of Mt. Pleasant.——Walker County Medical Society, at Huntsville: president, Dr. Eugene L. Angier; secretary, Dr. John W. Thomason, both of Huntsville.——Lavaca County Medical Society at Yoakum, February 10: president: Dr. James E. Lay, Hallettsville; secretary-treasurer, Dr. Walter Shropshire, Yoakum.——Texas Association of Medical Directors, at Dallas, February 10: president, Dr. William A. King, San Antonio; vice-president, Dr. John M. McCutchan, Waco; secretary-treasurer, Dr. Matthew M. Smith, Dallas.

## WISCONSIN

**New Officers.**—Langade County Medical Society at Antigo, February 5: president, Dr. Fred V. Watson; secretary-treasurer, Dr. John C. Wright, both of Antigo.——Fox River Valley Medical Society at Green Bay, February 5: president, Dr. W. Webber Kelly; secretary-treasurer, Dr. Richard H. Sweetman, reelected, both of Green Bay.——Sheboygan County Anti-Tuberculosis Association at Sheboygan, January 28: president, Dr. William F. Zierath, reelected.——Milwaukee Oto-Ophthmalmologists' Club, January 20: president, Dr. Henry B. Hitz; secretary-treasurer, Dr. Gustavus I. Hogue.——Twin City Medical Association of Neenah and Menasha at Neenah, February 7: president, Dr. George E. Forkin, Menasha; secretary-treasurer, Dr. Thaddeus D. Smith, Neenah.

## GENERAL

**Personal.**—Surgeon James C. Perry, U. S. P. H. S., has been granted a special leave of absence for a few days to accompany General Horras of Panama on a trip into the interior of the republic to inspect a site for a tuberculosis sanatorium.

**Warning Against Lake Water.**—The Public Health Service has issued a warning for the vessels on the Great Lakes against using the raw lake water for drinking purposes. So many cases of typhoid fever last year were traceable to drinking water on lake vessels that strict regulations have been formulated which will be put in operation in time for the summer excursion season.

**Medical College Alumnae Organize.**—Alumnae of the Women's Medical College of Pennsylvania, Philadelphia, met February 11 and organized a grand council of colleges, electing the following officers: president, Dr. Lillian Welsh, Baltimore; vice-president, Dr. Catherine MacFarlane, Philadelphia; secretary, Dr. Elizabeth F. Clark, Philadelphia, and treasurer, Dr. Johanna B. Leo, New York City.

**The Health of the Nation.**—According to a bulletin issued by the U. S. Census Bureau, February 11, the death-rate during 1913 in the registration area, based on the estimated population, was 13.8 per thousand. The rate for the same area in 1912 was 13.6 and in 1911 it was 13.9. Maryland among the states has the highest rate, 16.3, and Minnesota the lowest, 10.7. Among the cities Portland, Ore., had the lowest rate, 11 per thousand, and Memphis, Tenn., the highest, 22.9.

**Southeastern Sanitarians Meet.**—The Southeastern Sanitary Association, which was organized in Greenville, S. C., last May, held its first annual meeting in Columbia, S. C., February 13 and 14. The following officers were elected: president, Dr. J. LaBruce Ward, Columbia, S. C., director of rural sanitation of the Rockefeller Commission for the Study of Hookworm; vice-president, Dr. Charles E. Terry, city health officer, Jacksonville, Fla.; secretary-treasurer, Clarence E. Smith, D.V.S., Greenville, S. C. (reelected).

**Tri-State Physicians Meet.**—The sixteenth annual session of the Tri-State Medical Association of the Carolinas and Virginia was held at Wilmington, N. C., February 18-19 under the presidency of Dr. Southgate Leigh of Norfolk, Va. The following officers were elected for the ensuing year: president, Dr. Edward C. Register, Charlotte, N. C.; vice-presidents, Drs. J. Allison Hodges, Richmond, Va.; Charles T. Harper, Wilmington, N. C., and Frank H. McLeod, Florence, S. C., and secretary-treasurer, Dr. Rolfe E. Hughes, Laurens, S. C.

**Progress on Panama Exposition Buildings.**—According to a bulletin issued by President Moore of the Panama Pacific International Exposition at San Francisco, the exhibition buildings will be entirely complete and ready for installing the exhibits by July 1, 1914. The machinery palace, it is said, is practically completed now. Everything will be in readiness at the time of the opening of the Exposition, Feb. 20, 1915. Two hundred and twelve national and international congresses have already decided to meet in San Francisco in 1915

**Crematory in the Canal Zone.**—A crematory has been established at Ancon, located in the Ancon cemetery. It is proposed to abandon this cemetery, the location of which will become a part of the new Balboa townsite, and the crematory, now housed in a temporary structure, is for the purpose of incinerating the remains from the cemetery. Notices have been sent out to relatives or friends of persons interred in the cemetery where the addresses are available, giving them ninety days to remove bodies, after which time they will be cremated if not removed. A new site for a cemetery will be provided, probably at Corozal, and the crematory furnaces will be installed in a permanent building.

**Health Department in Canal Zone.**—The executive order providing for a permanent organization for the Canal Zone contains the following with reference to the establishment of a Health Department:

There shall be a health department under the direction and supervision of the Chief Health Officer. This department shall be charged with all matters relating to maritime sanitation and quarantine in ports and waters of the Canal Zone, and in the harbors of the cities of Panama and Colon; and with land sanitation in the Canal Zone, and sanitary matters in said cities in conformity with the Canal Treaty between the United States and the Republic of Panama and existing agreements between the two governments thereunder; and all matters relating to hospitals and charities.

**Bequests and Donations.**—The following bequests and donations have recently been announced:

Union Hospital, Terre Haute, Ind., $5,000, by the will of Elizabeth Maddox.

Rush Hospital and German Hospital, Philadelphia, contingent bequests of $25,000 each, by the will of the late Samuel Jamison, Ardmore, Pa.

Chicago Home for the Friendless, St. Luke's Hospital, Chicago Lying-In Hospital and Dispensary, Presbyterian Hospital, Passavant Memorial Hospital, equal shares in the estate of Thomas S. Kirkwood, of $400,000, after payment of bequests to ten relatives.

Methodist Hospital, Philadelphia, $10,000, by the will of Samuel Felton.

To the upkeep of Dunwoody Home for Convalescents, at Newton, near Philadelphia, $1,000,000, by William Hood Dunwoody, Minneapolis, Minn.

Federation of Jewish Charities, Philadelphia, a special $25,000 donation by the children of Elias and Amelia Wolf.

Philadelphia Home for Infants, $2,000 for the endowment of a crib, by the will of Anna P. Stevenson.

Infant Welfare Society, Chicago, $10,000; Chicago Winfield Tuberculosis Sanatorium, $10,000; New Convalescent Home for Destitute Crippled Children, $10,000; Bohemian Hospital, $1,000; and Federated Jewish Charities, $2,500, by the will of Edward Morris, Chicago.

**Notes Concerning Small-Pox.**—Under date of February 14, small-pox was reported from Mendocino and Lake counties, Cal., and the State Board of Health declared quarantine covering a wide area. About 300 cases have been reported.——An outbreak of small-pox, comprising 45 cases, was reported from Appleton, Wis., February 11. Several cases had developed among Lawrence College students.——Under date of February 12, ten cases of small-pox were reported among the pupils in the State School for the Blind, Batavia, N. Y.——The small-pox situation at Niagara Falls has improved. Under date of February 11, it was recorded that one thousand workmen, who objected to being vaccinated, paraded the streets and made demonstrations before the homes of Mayor Laughlin and City Health Officer Gillick. The men demanded that the quarantine imposed by the State Health Department, be raised. This required that unvaccinated employees of industrial establishments be not allowed to go to work until they had been vaccinated.——Judge W. F. Ezell of the District Court in San Antonio, upheld the rule of the school board making vaccination compulsory in the schools. An injunction was asked by Dr. A. D. Zucht to restrain the board from enforcing this rule.

**Railway Accidents in 1913.**—Accident Bulletin 48 of the Interstate Commerce Commission gives a statement of accidents on steam and electric railways during April, May and June, 1913, and also for the year ending June 30, 1913. A summary of all casualties for the year shows that a total of 211,272 persons were killed or injured during the period, 10,964 being the number killed and 200,308 the number of injured. This is an increase over 1912 of 379 killed and 30,770 injured. In "industrial accidents" 414 employees were killed and 113,620 injured. By "industrial accidents" is meant railway employees killed or injured otherwise than in operating trains. Of the total number killed 3,715 were employees, 403 passengers and 6,846 other persons (trespassers and non-trespassers), an increase over 1912 of 80 employees killed, 85 passengers killed and 214 "other persons" killed. Among the persons injured 171,417 were employees, 16,539 passengers and 12,352 other persons, an increase over 1912 of 28,975 injured employees, 153 passengers and 1,642 other persons. The increase in deaths and injuries may perhaps in some measure be accounted for by increased number of employees and increased number of passengers carried. The total figures, however, are appallingly large and seem to show grievous shortcoming in safety provisions and administration in railroad work. Some of the shortcomings are well illustrated in the detailed analysis of railroad accidents during the months of 1913 covered by the bulletin, and by the tables which set forth in detail the character of the accidents and the manner in which they occurred. The bulletin is made up from reports of the railroads made in accordance with the Act, approved May 6, 1910, requiring common carriers engaged in interstate commerce to make full reports of all accidents.

## CANADA

**Public Health Meeting.**—The fourth annual congress of the Canadian Public Health Association will be held at Fort William and Port Arthur, Sept. 10-11-12, 1914.

**Personal.**—Dr. Richard F. Preston, M. P. P., Lanark, Ont., has been admitted a member of Sir James Whitney's government in Ontario without portfolio. This makes three members of the medical profession now in the Ontario cabinet, Hon. Dr. Robert A. Pyne, minister of education, who is leading the government in the enforced absence of Sir James through prolonged illness and the Hon. Dr. Joseph O. Reaume, Windsor, Ont., minister of public works. So far there does not appear to be any medical legislation of moment before the legislature this session.——Dr. George P. Sylvester, Toronto, has gone on a trip to the Mediterranean.——Dr. A. Gordon Rice, Toronto, is suffering from a severe attack of blood-poisoning contracted at a post-mortem examination.—— Through the efforts of Dr. David Low, Regina, Sask., the *Western Medical News* has been acquired by the Saskatchewan Medical Association.

**Inspection of Schools.**—The total staff in connection with the medical inspection of public schools in Toronto now is as follows: A chief medical inspector on whole time in charge of the department; twenty-one medical inspectors on part time; one dental inspector and four dental surgeons on part time; one superintendent of nurses and thirty-seven school nurses on whole time. The city is divided into twenty districts with one medical inspector and two nurses in charge of each. One medical inspector confines his work to tuberculosis cases among the children.——Amherst, N. S., began the medical inspection of schools in February, 1911. The medical men of the town do the work gratis and a qualified nurse is employed to assist them. In Halifax two medical inspectors were first appointed in 1909 on part time. Out of 7,018 examinations in 1912-1913 there were 840 diseased or defective conditions. In Truro some tentative work is being done under the direction of the town's medical officer of health.

**Hospital News.**—At a meeting of representatives of the Toronto City Council, Toronto General Hospital and the Ontario government the past week, arrangements were completed whereby the Toronto General Hospital will hand over to the City Council the "Burnside" or lying-in pavilion of the old Toronto General Hospital, until the property is sold, for the purpose of a detention hospital, to be administered by the Ontario government. The Toronto General Hospital is to ask the City Council for an annual grant of $30,000 instead of the regular $1 per patient per day for those admitted on a city order. The hospital claims that it should receive 5 per cent. on the gross amount granted by the city, namely $600,000 for the erection of the new hospital. The General Hospital has 715 beds, of which 135 are private, 30 semi-private, 520 public and 30 semi-public. The charge for the semi-private is $13.50 per week and for the semi-public, $10 per week. As all the Toronto hospitals are said to have shortages, it is expected that St. Michaels, Grace and the Western as well as the Children's will also approach the board of control for similar arrangements. For the year ended Sept. 30, 1913, the Children's Hospital had a shortage of $40,000.

## LONDON LETTER

*(From Our Regular Correspondent)*

LONDON, Feb. 7, 1914.

### Action Against a Physician for Wrong Diagnosis

The legal hardships to which physicians are exposed even when they conscientiously discharge their duties with due skill are illustrated by the following case: A woman brought an action against a physician for alleged negligent treatment of an injury to her left knee, on the ground that he failed to diagnose a fracture of the patella and treated her for a supposed torn ligament. The physician gave evidence to the effect that he warned her that a roentgenogram should be taken, but she refused to incur the expense. He accordingly treated her on the assumption that there might have been a fracture. He also suggested the obtaining of a second opinion, but she said that she was quite satisfied. Two well-known surgeons gave evidence on the physician's behalf to the effect that even if they had roentgenograms to aid them in the diagnosis, their treatment would have been the same as his. A verdict was returned for the plaintiff.

### Red Cross Aeroplanes

Last August Lieutenant-Colonel Donegan published in the *Hospital* an article entitled "The Probable Uses of Aerial Transport to the Medical Profession." He expressed the view that aerial transport would one day be provided for the wounded. He referred to experiments made by the late Colonel Cody with his 100-horse-power machine. It may be remembered that this well-known American aeronaut was engaged by the British war office and unfortunately killed by the fall of his machine. He intended to devote a machine to ambulance work and even to rig up contrivances to carry helpless patients, lying on the wings. The war office has recently decided to allow the use of an aeroplane to the British Red Cross during the coming summer to demonstrate its value as a form of transport for the wounded.

### The National Campaign Against Tuberculosis

It may be remembered that one important feature of the national insurance act was the providing of money for the treatment of tuberculosis, both at home and in sanatoriums, and also for the investigation of the disease. Under the supervision of the government, schemes of treatment have been prepared all over England so as to bring skilled advice within the reach of every one suffering from the disease. There are now between 450 and 500 approved institutions for the treatment of tuberculosis, and the building of others is rapidly proceeding. The scheme involves two units, the first being the dispensary or non-residential institution and the second the sanatorium and hospital for residential treatment. There are now 250 dispensaries, and in time one will be established in every large town and within reasonable distance of every country district. The dispensary is a center for diagnosis, treatment and after-care. The patient is either treated there or sent to a sanatorium or hospital. In suitable cases a shelter (with the necessary furniture) may be lent to him for erection in his own garden. Each dispensary is under the charge of a medical officer called the "tuberculosis officer," who is a specialist in tuberculosis. The tuberculosis officers are assisted by a staff of competent nurses and health visitors. The whole arrangements are under the administration of the health officer of the district. It is estimated that the total cost of the scheme will work out about 19 cents per head of the population.

### The Royal Commission on Venereal Diseases

At the eleventh meeting, evidence was given by Lieutenant-Colonel Gibbard, head of the Rochester Row Military Hospital. He said that the most important causes of the decrease of venereal diseases in the army were the improved treatment and the instruction of the men by lectures and individual talks. Other contributory causes were greater temperance, the increased attractions of the barracks, and the greater encouragement of outdoor games. The problem of the prevention

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of the spread of venereal disease in the civil population could best be attacked by providing early diagnosis and treatment, by enlightening the public by lectures and by promoting temperance. Arrangements should be made for free performance of microscopic examinations and blood-tests. Colonel Gibbard did not favor special hospitals for venereal diseases. Every general hospital should provide a certain number of beds, and these should be in the general wards. An outpatient department should also be organized so as to give patients every facility for early diagnosis and treatment and be kept open at hours suitable for the working classes. Compulsory notification he considered undesirable, as it would lead to concealment of the disease. Education with regard to venereal diseases should be given by lectures in large factories by selected medical men, or women (when the employees were women) and these might be illustrated by moving pictures. At the lectures great stress should be laid on the importance of seeking advice early and not consulting quacks.

## PARIS LETTER

*(From Our Regular Correspondent)*

PARIS, Feb. 6, 1914.

### Personal

February 3 the Académie de médecine elected a member in the section of medical pathology to replace the late Professor Jaccoud. Dr. Babinski, physician of the hospitals of Paris, was almost unanimously elected. This honor is a just reward for his remarkable works, which do credit to French neurology. Dr. Babinski was one of the favorite pupils of Charcot and has distinguished himself especially for his studies on the reflexes, through which he discovered the "Babinski sign," which indicates a functional disturbance of the pyramidal system. Dr. Babinski has lately been much interested in hysteria, to which he gives a new conception and a new name, "pithiatism," under which he groups especially the phenomena produced by suggestion and suppressed by persuasion. The old conception that hysteria simulates true lesions and serious disorders has disappeared.

### Prophylaxis of Leprosy in France

The ministry of the interior in undertaking a scientific investigation of the prophylactic measures against leprosy which should be taken in continental France consulted the Académie de médecine, which has delegated Dr. Netter to study the question. Netter believes that to class leprosy among the reportable diseases is not sufficient to prevent its spread. A special law is necessary. As leprosy is only slightly contagious without prolonged contact, under elementary hygienic precautions it should not be necessary to isolate lepers in special establishments if these conditions can be realized in their homes. Dr. Gaucher, clinical professor of cutaneous and syphilitic diseases in the Faculté de médecine de Paris, does not believe that lepers can be sufficiently isolated at their homes. Gaucher asserts that three classes of lepers are to be distinguished in France: 1. The indigenous lepers of the South number not more than sixty. In them the disease is familial and very mild. These lepers are not a menace, and as they voluntarily isolate themselves may be cared for in their homes. 2. French citizens, infected in the colonies, have the disease in a very virulent form and should be isolated on an island in the Mediterranean under sanatorium conditions. 3. Foreigners affected with leprosy should be forbidden to enter the country. No foreign government could object.

### Indirect Anaphylaxis

Prof. Charles Richet, who, as I mentioned in a previous letter, has lately been elected a member of the Académie des Sciences, at its last session made a very interesting report on a new form of anaphylaxis. With Dr. Lassablière, he observed that dogs chloroformed for the first time never present leukocytosis, either then or afterward. When chloroformed a second time, however, about three weeks afterward they presented an intense leukocytosis, which began the day after the anesthesia and reached its maximum on the eighth day. Richet believes that this phenomenon can be explained only on the hypothesis of indirect anaphylaxis—a hitherto unknown type. In this case the anaphylactic phenomena, in particular the leukocytosis, are due not to chloroform itself, but to the albumins produced by its influence in the alteration of the liver and kidneys. It seems then that anaphylactic substances must be divided into two groups: those causing anaphylaxis immediately, or in a few minutes, by passing directly into the blood, and those which produce it solely by causing the splitting of the albuminoids, an auto-intoxication harmless the first time and dangerous the second. This is indirect anaphylaxis.

### A New Method of Antialcohol Propaganda

In view of the elections to the Chamber of Deputies soon to be held, an antialcoholic committee, just founded, named "Alarme" has organized a series of large public meetings in the principal cities of France. Various speakers selected from all political parties, all religious denominations and all professions, physicians, workmen, lawyers, members of Parliament, economists, etc., are to be heard. The committee proposes to influence the candidate through the voters. It intends to show the peril which menaces the country and the absolute necessity of passing salutary laws, and will ask each of the voters to demand that the candidates of his own party shall promise to vote for these laws. The first meeting has been held in Bordeaux under the presidency of Professor Bergonié. Dr. Regis, clinical professor of mental diseases of the medical school of that city, reported the striking fact that of about 1,800 mentally abnormal persons now in the common schools of Bordeaux, at least 80 per cent. are of alcoholic heredity.

### Sale of Poisonous Substances to Physicians

The Paris Court of Appeals has just rendered an interesting decision with regard to the sale of poisons. The servant of a physician presented to a wholesale dealer in pharmaceutical products a letter bearing the forged signature of the physician and asking for ampoules of morphin. They were delivered to her three consecutive times, and by her given to the physician's wife, who had forged his signature to procure the drug. She was already a morphinomaniac and was obliged to undergo a long and expensive course of treatment. The physician brought suit against the dealer who had sold the morphin for the expenses of his wife's treatment. The court condemned the dealer to pay the doctor 300 francs ($60) damages on the ground that wholesale dealers are not authorized to sell poisons directly to physicians, but only to chemists, pharmacists and manufacturers registered for the purpose. Wholesale pharmacists who sell to physicians do so at their own risk.

### The Nobel Prize for 1914

The Académie des Sciences and the Karolinska Institutet of Stockholm, which are responsible for the award of the Nobel prizes in chemistry, physics and medicine, are already drawing up the lists of candidates for 1914. Each year the members of the Swedish committee ask a certain number of eminent scientific organizations to propose candidates. The nominations are examined with scrupulous care for more than a year, as the Nobel prizes are awarded only in December. In France, the scientific medical and literary bodies so far consulted are unanimous in their choice of Professor Bouchard, member of the Académie des Sciences and the Académie de médecine.

### French National Committee of Dental Hygiene

The purpose of this committee, recently founded, is the popularization of dental hygiene, for which it has organized lectures in various places and proposes to create a dental dispensary. It will also post placards giving in all French schools and in the hospitals of Paris the most elementary precepts in dental hygiene, and will distribute tooth-brushes in schools. A moving-picture film, intended to promote dental hygiene, is in preparation.

### Demonstration in Honor of Professor Ehrlich

Recently an imposing ovation was given to Professor Ehrlich at the Broca Hospital.

## VIENNA LETTER

*(From Our Regular Correspondent)*

VIENNA, Feb. 4, 1914.

### Personal

Quite a number of new professors have been appointed recently, among them several men whose names and reputations are familiar all over the world, as, for instance, Dr. Heinrich Neumann, the famous otologist (formerly privatdocent), and Dr. G. Holzknecht, one of the pioneers of roentgenotherapy, as well as Dr. Arthur Schuller, whose researches on neurology are well known. Furthermore, Dr. Fein (rhinolaryngology), Dr. Klein (ophthalmology), and Dr. Sternberg (pathologic anatomy), received this distinction, besides several other men who are known chiefly to their German confrères.

A short time ago Dr. Joseph Hirschl, professor of psychiatry, died in Vienna at the early age of 48 years. His name was at a time well known through his reseaches into the origin of tabes and general paralysis of the insane, which he was the first to prove to be a direct outcome of syphilis.

### An Isolated Outbreak of Small-Pox

The rarity of small-pox in this country makes the appearance of a case quite an interesting item here. Recently a baker's apprentice, who had been outside of Austria a short time before, fell ill, and his disease was recognized as small-pox only after he had developed ripe pustules on the face and had been carrying the goods of his employer from house to house for over a week after the commencement of his illness. Of course, when it was recognized, all necessary precautions were taken in a most stringent way, and the authorities succeeded in controlling the outbreak so far that only six persons were infected, of whom one (a boy of 4 years) died from complications. The fact that in spite of the excellent possibilities for infection, so few persons caught the disease, is explained by the nearly universal vaccination of the population of this city. We have hardly any conscientious objectors here, but nearly compulsory vaccination. It is not officially known whether or not the persons attacked in the recent outbreak had been vaccinated before the illness.

### A Prize for Therapy of Diabetes

The Carlsbad practitioners offered a prize of $1,000 for the best essay on the treatment of diabetes, with chief consideration of balneotherapy, which was open until the end of 1913. Five papers were sent in, three German, one English and one Italian. The result is not known yet, but it is interesting to learn that so few doctors thought it fit to take part in this important competition.

### A Lecture on Cancer

Dr. von Sielenski, the director of the scientific department of Czerny's Cancer Institute in Heidelberg, was invited to lecture a few days ago in Vienna on the modern aspects of the cancer problem. A special meeting of the Vienna Gesellschaft der Aerzte was arranged in honor of the guest. He stated that the causative agent or the primary cause of cancer has not yet been found. At present we are forced to use only animal experiments, as we cannot inoculate human beings with cancerous material. In recent years, remarkable discoveries were said to have been made as regards the infection of rats with cancer-producing worms; but control experiments showed only that infections of the stomach of rats could be produced, and the ulcerations finally healed with benign tumor formation. Also in chickens an infection with a sporidium produces ulcerations, which from unknown causes sometimes become cancerous. A large number of other parasites are known, especially in botany, which produce proliferations of epithelium, but not true cancer. Their real significance will become clear if the technic of parasitology becomes better known. On these lines the problem of cancer may be solved and thus we may hope for a cure of this disease.

### Venereal Diseases Among Students

An important addition to the weapons for combating the spread of sexual diseases has been made by the institution of a special ambulatorium devoted solely to the treatment of sexual diseases among students in Vienna. The Austrian Society for Prevention of Sexual Diseases has organized the ambulatorium, which is under the direct supervision of a competent specialist. A recent report shows that 482 patients applied during the first seven months of its existence. These patients made 3,968 calls. There were 31 cases of syphilis, 268 of gonorrhea and 12 of soft chancre, while the remaining 171 patients were either not sexually ill or had nothing the matter with them. On some days the number of persons applying for advice was as high as 59. While the majority of the visitors were university students, 39 patients came from Latin schools (gymnasiums, as they are termed here); the youngest was 15 years of age, the oldest of these 19, while the oldest patient was 27. Of course, these figures give only an idea of how very much needed such an institute really is, for they constitute only a fraction of the real number of patients who, for some reason or other, would require specialist help. It is well known that the liberal vocations suffer considerably from these diseases, which the young men acquire mostly during their university studies (between their twentieth and twenty-fifth years of age). For these youths, the hope of the next decade, the institute was made and the society chiefly is working.

## Marriages

JAMES SLADE RHODES, M.D., Williamston, N. C., to Miss Carrie Ernestine Alexander of Atlanta, Ga., January 8.

WILLIAM PERRY NORTHRUP, M.D., New York City, to Miss Julia Radcliffe Cowing of Brooklyn, February 11.

HAROLD H. THEIS, M.D., to Miss Augusta Steiner, both of Youngstown, Ohio, at Marietta, Ohio, January 3.

JOSHUA ROSETT, M.D., to Miss Louise Carey, both of Baltimore, at Ronceverte, W. Va., February 6.

THOMPSON COBERTH, M.D., The Dalles, Ore., to Miss Pearl Gibbons of Palouse, Wash., February 14.

CHARLES LEWIS GAULDEN, M.D., to Miss Branch, both of Elizabeth, La., February 9.

## Deaths

**Gaius J. Jones, M.D.** Cleveland University of Medicine and Surgery, 1872; professor of theory and practice of medicine, and dean of the Cleveland Homeopathic Medical School; for many years local surgeon of the Lake Shore and Michigan Southern, and Erie Systems; president of the National Safe and Lock Company since 1887; formerly president of the American Institute of Homeopathy; died at his home in Cleveland, February 7, aged 70.

**Horace Eugene Marion, M.D.** Dartmouth Medical School, Hanover, N. H., 1869; a Fellow of the American Medical Association; a veteran of the Civil War; since 1870 a practitioner of Brighton, Mass.; formerly assistant surgeon, surgeon and medical director of the Second Brigade, Mass. V. M.; died suddenly in his automobile in Boston, February 8, from heart disease, aged 70.

**Sylvester J. Wedding, M.D.** University of Louisville (Ky.), 1881; a member of the Kentucky State Medical Association; for thirteen years local surgeon for the Illinois Central system at Rosine; health officer of Ohio County for four years, and for two years a member of the Hartford City Council; died at his home, February 3, from pneumonia, aged 64.

**Jacob Jacques Simonson, M.D.** Toledo (Ohio) Medical College, 1884; a Fellow of the American Medical Association and one of the best known practitioners of Central Wisconsin; founder and chief of staff of the Chicago, Milwaukee and St. Paul Railway Hospital, Tomah, and local surgeon for that road; died at his home, February 6, from dropsy, aged 60.

**John McKelvey Gray, M.D.** Medico-Chirurgical College of Philadelphia, 1893; formerly assistant at the Miners' Hospital, Fountain Springs, Pa.; and later superintendent of the Schuylkill County Alms House Hospital; died at his home in Port Carbon, February 8, three months after an operation for the removal of gall-stones, aged 41.

**Robert Charles Moon, M.D.** Jefferson Medical College, 1886; vice-consul in Philadelphia for Liberia; an officer of many societies for relief of the blind; son of Dr. William Moon, who invented the raised type used by the blind; an ophthalmologist of repute; died at his home in Lansdowne, Pa., February 13, from heart disease, aged 68.

**Anthony F. Daugherty, M.D.** University of Pennsylvania, Philadelphia, 1890; a Fellow of the American Medical Association; of Ashley, Pa.; for twenty years surgeon to Mercy Hospital, Wilkes-Barre, Pa.; died in St. Mary's Hospital, Rochester, Minn., February 6, from penumonia, two days after a surgical operation, aged 45.

**John Howard Mules, M.D.** Cooper Medical College, San Francisco, 1904; formerly of Reno, Nev.; secretary of the Placer County Medical Society and secretary of the Board of Health of Watsonville; died in Bellevue Hospital in that city, February 1, from acute nervous breakdown, aged 40.

**Eldridge D. Flagg, M.D.** Eclectic Medical Institute, Cincinnati, 1880; a member of the Kansas legislature in 1903; three times mayor of Perry, Kan., and four times a member of the local board of education; died at his home, February 12, from heart disease, aged 61.

**Eben Payne Hines, M.D.** Jefferson Medical College, 1874; a member of the Medical Society of the State of Pennsylvania; of Great Bend; died in the Susquehanna Hospital, January 19, two days after a surgical operation.

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**Adelbert L. Ritchey, M.D.** College of Physicians and Surgeons, Keokuk, Iowa, 1859; for forty years a practitioner of Nashville, Tenn.; surgeon of the Tenth Illinois Volunteer Infantry during the Civil War; died at his home, January 21, from pneumonia, consequent on a street-car injury received two weeks before, aged 73.

**Daniel Grove Moore, M.D.** Rush Medical College, 1879; a Fellow of the American Medical Association; a veteran of the Civil War; for eight years city physician of Chicago; a member of the attending staff of St. Mary's of Nazareth Hospital; died at his home, February 17, from carcinoma of the throat, aged 70.

**Sebourn McIver Jenkins, M.D.** Memphis Medical College, Memphis, Tenn., 1892; a member of the Oklahoma State Medical Association, aged 40, was found dead in his office in Enid, Okla., January 31, from the effects of strychnin, believed to have been self-administered with suicidal intent, while despondent.

**Maurice Andre, M.D.** Washington University Medical School, St. Louis, 1866; formerly president of the Ste. Genevieve (Mo.) Medical Society; a "Forty-Niner"; until two years ago a practitioner of Ste. Genevieve, and since that time a resident of St. Louis; died in a hospital in that city, January 23, aged 79.

**Jacob Henry Ludwig, M.D.** Medico-Chirurgical College of Philadelphia, 1903; a member of the Medical Society of the State of Pennsylvania; of Boyerton; for two years a member of the local school board; died in the Pottstown Hospital, January 31, a week after an operation for appendicitis, aged 38.

**Erasmus Darwin Burton, M.D.** Western Reserve University, Cleveland, Ohio, 1846; at one time the only practitioner on the east side of Cleveland; for twenty years a trustee and member of the finance committee of the Cleveland Society for Savings; died at his home in East Cleveland, January 23, aged 88.

**James D. Fulton, M.D.** Tulane University, New Orleans, 1902; a member of the Louisiana State Medical Society; for a long time quarantine officer on fruit ships between New Orleans and Central America; died in the Touro Infirmary, New Orleans, January 26, from hemorrhagic pancreatitis, aged 42.

**Joseph H. Davis,** (license, Indiana, 1897), assistant surgeon of the One Hundred and Forty-Fifth Indiana Volunteer Infantry throughout the Civil War; for many years a practitioner of Azalia, but for the last nine years a resident of Seymour; died at his home, January 27, from pneumonia aged 77.

**Parker J. McClure, M.D.** Memphis (Tenn.) Hospital Medical College, 1893; was found dead in his home in Calvin, Okla., January 22, from the effects of a gun-shot wound of the head, believed to have been self-inflicted with suicidal intent, while despondent on account of ill-health, aged 37.

**Walter Herbert Wooten, M.D.** North Carolina Medical College, Charlotte; of Davidson; at one time professor of hygiene in his alma mater; a member of the Medical Society of the State of North Carolina; was shot and killed by Monroe Jetton at his house in Davidson, February 10, aged 45.

**William Henry Lincoln, M.D.** Rush Medical College, 1882; for twenty-five years a practitioner of Wabasha, Minn.; and once mayor of that city; for the last year one of the proprietors of the Mondovi, Wis., Hospital; died in that institution, January 25, from cerebral hemorrhage, aged 57.

**Francis Atkisson, M.D.** University of Louisville, Ky., 1862; a Fellow of the American Medical Association; from 1879 to 1883 an acting assistant surgeon in the army, and since that time a practitioner of Fort Benton, Mont.; died in St. Mary's hospital in that city, February 2, aged 74.

**Jacob Frick Frantz, M.D.** Hahnemann Medical College, 1875; president of the Dentists' Supply Company, New York City; a director of the National City Bank and People's Bank for Savings of New Rochelle, N. Y.; died at his home in that place, February 7, from nephritis, aged 62.

**William M. Dent,** (license, West Virginia, years of practice, 1881). For sixty years a practitioner of Newburg; a director of the Merchants Mechanics Bank of Grafton; died in Grafton City Hospital, January 29, from septicemia, aged 83.

**Francis Marion Jeffers, M.D.** Hospital College of Medicine, Louisville; a member of the Indiana State Medical Association; formerly of Odell; died at his home in Attica, February 3, from nephritis, aged 56.

**John A. Blackwell, M.D.** Jefferson Medical College, 1859; a veteran of the Civil War, in which he served as Surgeon of the One Hundred and Fifteenth Indiana Volunteer Infantry; for a time a practitioner of Bedford, Ind.; died at his home in Wellsville, Mo., January 28, aged 79.

**Armin Uebelacker, M.D.** New York Homeopathic Medical College, New York City, 1871; for several years a member, president and treasurer of the New Jersey State Board of Medical Examiners; died at his home in Morristown, February 6, from senile gangrene, aged 83.

**William H. Hanford, M.D.** Cleveland University of Medicine and Surgery, 1853; for sixty years a practitioner of Williamsburg, N. Y.; one of the founders of the Eastern District Medical Dispensary; died at his home in Brooklyn, January 19, from senile debility, aged 89.

**Allister MacDonald Bell, M.D.** College of Physicians and Surgeons, New York City, 1904; a Fellow of the American Medical Association and professor of histology in Fordham University, New York City; died at his home in West Caldwell, N. J., January 28, aged 37.

**Von Beverhout Thompson, M.D.** Columbian University, Washington, D. C., 1867; a member of the Medical Society of the State of New York; for many years a practitioner of New York City; died at his home in Poughkeepsie, January 19, from heart disease, aged 67.

**John Newton Babcock, M.D.** University of Michigan Homeopathic Medical College, Ann Arbor, 1898; of West Bay City, Mich.; died in his room in Grand Rapids, Mich., January 27, from the effects of cocain self-administered, it is believed, with suicidal intent; aged 38.

**Burtis Walden Green, M.D.** Kansas City (Mo.) Medical College, 1901; formerly an official of the Health Department of Manila, P. I.; but for the last year connected with a mining corporation in Mexico; died January 15, in San Luis Potosi, Mexico, aged 38.

**Conrad Marshall Fisher** (license, Ohio, 1896); a practitioner of Rushsylvania, Ohio, for forty-five years; aged 74; was instantly killed, February 9, when the buggy in which he was crossing a railway track near Rushsylvania was struck by a passenger train.

**Samuel Towers Linklater, M.D.** University of Edinburgh, Scotland, 1882; a Fellow of the American Medical Association; of Hillsboro, Ore.; was struck by an electric car at Elmonica, February 7, and died a day later, in a hospital in Portland, aged 60.

**William Lunsford Wilson, M.D.** University of Pennsylvania, Philadelphia, 1857; one of the oldest practitioners of Nashville, Tenn.; surgeon in the Confederate service throughout the Civil War; died at his home in Nashville, January 31, from pneumonia, aged 80.

**Dennis Lawrence Glynn, M.D.** Baltimore Medical College, 1902; of Portland, Conn.; a Fellow of the American Medical Association; died at St. Francis' Hospital, Hartford, Conn., January 30, about six weeks after an operation for appendicitis, aged 38.

**Charles E. Smith, M.D.** Albany (N. Y.) Medical College, 1858; a member of the Medical Society of the State of New York; for twenty-one years postmaster of Whitesboro, N. Y.; died at his home January 27, from cerebral hemorrhage, aged 77.

**Oscar Carl Schleifer, M.D.** Western Pennsylvania Medical College, Pittsburgh, 1903; formerly a home missionary of the German Lutheran Society; died at his home in East End, Pittsburgh, January 31, from scarlet fever, aged 45.

**William S. McBurnie, M.D.** University of Louisville, Ky., 1867; for twenty-nine years a practitioner of Wichita, Kan., local surgeon for several railroads; died in a hospital in that city, January 30, from heart disease, aged 70.

**John Archibald McCallum, M.D.** Bellevue Hospital Medical College, 1873; a Fellow of the American Medical Association; formerly of Arkadelphia, Ark.; died at his home in Clinton, Ky., January 23, from heart disease, aged 78.

**D. Clark Nipple, M.D.** Medical College of Ohio, Cincinnati, 1877; a member of the Medical Society of the State of Pennsylvania; died at his home in Mt. Union, January 10, aged 61.

**James Healy, M.D.** Long Island College Hospital, Brooklyn, N.Y., 1861; Jefferson Medical College, 1862; died at his home in San Francisco, January 31, aged 81.

**Richard Gallego Crouch, M.D.** Medical College of Virginia, Richmond, 1876; a Confederate veteran; died at his home in Richmond, January 27, aged 85.

**Edward P. Chase, M.D.** University Medical College, Kansas City, Mo., 1894; of Shawnee, Kan.; a member of the Kansas Medical Society; died in St. Joseph's Hospital, Kansas City, Mo., February 5, from pneumonia, aged 43.

**Lee Verne Howard, M.D.** Denver and Gross College of Medicine, Denver, Colo., 1904; a member of the Colorado State Medical Society; died at his home in Los Angeles, Cal., January 12, from cerebral hemorrhage, aged 33.

**Ferdinand Christoph Gores, M.D.** Miami Medical College, Cincinnati, 1879; for thirty-seven years a teacher of German in the Woodward High School, Cincinnati; died at his home in that city, January 25, aged 71.

**Llewellyn B. Staley, M.D.** Cincinnati College of Medicine and Surgery, 1881; a member of the Indiana State Medical Association; a veteran of the Civil War; died at his home in Bicknell, January 28, aged 69.

**George Ephraim Fuller, M.D.** Georgetown University, Washington, D. C., 1865; a Fellow of the American Medical Association; died at his home in Monson, Mass., Dec. 23, 1913, aged 69.

**Warren Byers Watkins, M.D.** Bellevue Hospital Medical College, New York City, 1897; formerly of Opelika, Ala., but later a banker of Oklahoma City; died February 1, from erysipelas, aged 46.

**Edward Gardiner Day, M.D.** College of Physicians and Surgeons, New York City, 1889; of New York City; died in the Presbyterian Hospital, New York City, February 5, aged 70.

**Charles C. Ranes, M.D.** Barnes Medical College, St. Louis, 1910; of Basco, Illinois; died at the home of his brother in Urbana, Ill., February 2, from typhoid fever, aged 32.

**Reu Orman Ross, M.D.** American Medical Missionary College, Chicago, 1900; a Fellow of the American Medical Association; died at his home in Fresno, Cal., February 7, aged 42.

**John Roth, M.D.** Baltimore University, 1894; for twenty-three years a member of the police force of Baltimore; died at his home in East Baltimore, January 30, aged 62.

**Frederick Scheuermann, M.D.** Chicago Homeopathic Medical College, 1879; a member of the Illinois State Medical Society; died at his home in Chicago, January 17, aged 62.

**Joseph P. Lamb, M.D.** Bellevue Hospital Medical College, 1867; for three years city physician of Poughkeepsie, N. Y.; died at his home in the Bronx, New York City, January 18.

**Theodore E. Butler, M.D.** Kentucky School of Medicine, Louisville, 1876; of Ballinger, Tex.; died at the home of his son in Temple, Tex., January 25, aged 61.

**Charles True, M.D.** Rush Medical College, 1866; a veteran of the Civil War; died at his home in Kankakee, Ill., January 30, from cerebral hemorrhage, aged 70.

**Walter Ardiel, M.D.** Western University, London, Ont., 1897; died at his home in Grand Rapids, Mich., January 29, from disease of the liver, aged 43.

**William David Hinchey, M.D.** Medical College of Ohio, Cincinnati, 1875; died at his home in St. Louis, January 27, from chronic bronchitis, aged 61.

**Horace T. Holden, M.D.** Chicago Homeopathic Medical College, 1897; died at his home in Omaha, January 21, from sarcoma of the lungs, aged 43.

**David A. Hatt, M.D.** Detroit College of Medicine, 1897; of Onaway, Mich.; died at his home, January 26, from pneumonia, aged 62.

**Charles Francis Sherman, M.D.** Boston University School of Medicine, 1877; died at his home in Holland, Mich., January 13, aged 59.

**James Albert Cox, M.D.** Long Island College Hospital Brooklyn, N. Y., 1891; died at his home in New York City, February 3, aged 55.

**Garwood Harvey Attwood, M.D.** Yale University, New Haven, Conn., 1844; died at his home in Waterbury, Conn., February 1, aged 95.

**Luther K. Stine, M.D.** University of Pennsylvania, Philadelphia, 1860; died at his home in Philadelphia, January 23, aged 77.

**Louis G. Belisle,** Laval University, Montreal, 1908; was found dead in his home in West Rutland, Vt., January 16, aged 29.

**John Ridley Nott, L.R.C.P. and S.,** Edinburgh, 1887; died at his home in Lakeport, Cal., about February 1.

**Joseph Barranco, M.D.** University of Palermo, Sicily, 1891; of Baltimore; died in Italy, Dec. 7, 1913.

# The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

## SOME MORE FRAUDULENT OBESITY CURES *

### Every Woman's Flesh Reducer

"Every Woman's Flesh Reducer" is sold by the Every Woman Company, Chicago, Ill. It is a white powder, smelling strongly of camphor and comes in a violet-colored tin box. It is an "obesity cure" of the bath-powder type and the directions are to dissolve 5 tablespoonfuls of the powder in an ordinary hot bath.

"Lie in bath ten minutes each night before retiring. Within one week you will commence to notice the reduction."

Like every other obesity cure, the use of "Every Woman's Flesh Reducer" is said to obviate the necessity of exercising or dieting for reducing weight. For instance.

"Every Woman's Flesh Reducer will rid both men and women of dangerous, superfluous fat without internal drugs, dieting or exercise."

"Just dissolve Every Woman's Flesh Reducer in your bath and that's all, except that your superfluous fat will fade away . . ."

"No need of starving yourself. . . ."

"Eat what you like. . . ."

"Every Woman's Flesh Reducer will quickly and naturally relieve you of all abnormal fat."

All this, and much more, nonsense to the same effect! An original package of the stuff was purchased and submitted to the Association's laboratory for analysis. The chemists reported:

"The box contained 520 gm. (less than 1¼ pounds) of a white, somewhat 'cakey' powder, having an odor of camphor. On treating some of the powder with water, an evolution of carbon dioxid took place, leaving, when the reaction had ceased, a flocculent precipitate, soluble only on addition of acids. Qualitative examination indicated the presence of the following constituents: aluminum, magnesium, potassium, sodium, carbonate, citrate, sulphate and camphor.

"From a qualitative examination, supplemented by an estimation of the magnesium, aluminum, sulphate and water content, the powder was found to be a mixture of ordinary alum (crystallized potassium aluminum sulphate), about 22 per cent., Epsom salt (crystallized magnesium sulphate) about 34 per cent. with an effervescing base consisting of citric acid and sodium bicarbonate (or possibly sodium carbonate) and small amounts of camphor."

From these findings it is evident that "Every Woman's Flesh Reducer" consists, essentially, of:

| | | |
|---|---|---|
| Epsom salts | Alum | Citric Acid |
| Camphor | Soda | |

The soda and citric acid are apparently put in for the purpose of producing an effervescence when the stuff is dissolved in water. This is probably for psychic effect. That taking a hot bath daily and staying in it for some length of time may reduce weight is doubtless true, though the indiscriminate use of such a method is not to be commended. That putting small quantities of Epsom salt, alum and camphor

* These will be incorporated, with others that have already appeared, in the pamphlet "Obesity Cure Fakes," price 10 cents.

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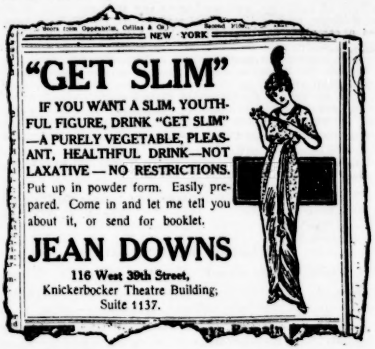
into the tub would have any effect in the reduction is certainly not true. Like every other bath powder sold as a "cure" for obesity, "Every Woman's Flesh Reducer" is a fraud.

### "Get Slim"

Jean Downs of New York City offers to remove "a little lump of fat on the back of the neck" or "knobs on the hips below the corset" and in other ways reduce the obese to a condition of delightful slimness. It is all done with "Get Slim," which is "not a medicine, but a drink—a purely vegetable, pleasant, healthy drink." Most simple, is it not? "Get Slim" comes in powder form; "it is not laxative" and of course "there is no special dieting." All that is necessary is to dissolve "Get Slim" in water "and drink it, when thirsty, instead of water."


NEW YORK
"GET SLIM"
IF YOU WANT A SLIM, YOUTHFUL FIGURE, DRINK "GET SLIM" —A PURELY VEGETABLE, PLEASANT, HEALTHFUL DRINK—NOT LAXATIVE — NO RESTRICTIONS.
Put up in powder form. Easily prepared. Come in and let me tell you about it, or send for booklet.
JEAN DOWNS
116 West 39th Street,
Knickerbocker Theatre Building,
Suite 1137.

What "Get Slim" will do is told in testimonials sent out by Jean Downs. Most of these testimonials are from women, and in every case either the name or the address is lacking. One, however, purports to come from a physician, E. P. Robinson, M.D., 1402 Broadway, New York City. Dr. Robinson is most enthusiastic about "Get Slim," and declares that he is "acquainted with the ingredients entering into its manufacture."

"Get Slim" is sold at $1 a box. A box contains fifteen large envelopes, the same number of smaller envelopes and a package of powder. The larger envelopes contain a pink powder; the smaller envelopes also contain a pink powder. The powder in the third package is white. The contents of the various packages were analyzed in the Association's laboratory and the chemists' report follows:

"An original sealed package of 'Get Slim,' Jean Downs, New York, was received at the Association's Chemical Laboratory for examination. The trade package contained three separate smaller packages as follows: (1) The larger package consisted of 15 envelopes each containing 10 gm. (150 grains) of a pink powder which responded to tests for ordinary sugar (sucrose). No other constituents were found. It is therefore concluded that these powders consist essentially of sugar tinted pink. (2) Package number two was composed of 15 smaller envelopes each enclosing about 3 gm. (45 grains) of a pink powder. This powder responded to tests for ordinary tartaric acid. With the exception of a trace of red color no other constituents were found. It is therefore concluded that these powders consist essentially of tartaric acid. (3) The third package contained 115 gm. of a white powder which responded to tests for sodium bicarbonate. No other constituents were found."

Summed up then the chemists' report shows that "Get Slim" consists essentially of:

Sugar, colored pink
Tartaric acid, colored pink
Baking soda

The directions call for mixing the pink sugar with the pink tartaric acid in a quart of water and adding the juice of one lemon. The baking soda is to be dissolved in a quart of hot water and a teaspoonful of the mixture taken three times a day before meals. The approximate cost of the ingredients in a $1 box of "Get Slim" is 7 cents.

In addition to "Get Slim" Jean Downs also sells a "Bath Mixture" as "a great aid to reduction"; a "Bleaching Cream" which it is said "removes all freckles and discolorations after a very short time"; and a "Nourishing Cream" which we are asked to believe is "a perfect skin food," that "removes and prevents lines."

The "Get Slim" obesity cure is but a modification of the old-fashioned pink lemonade that used to be sold at the circus before pure food laws interfered with this profitable swindle. It was usual, as will be remembered, to cut up one lemon and float it on top of the barrel. The psychic effect was valuable to the dispensers.

Whatever reduction in weight may be brought about by "Get Slim" is due to the interference with digestion by the use of this synthetic lemonade.

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## PAM-ALA, ANOTHER WORTHLESS QUININ SUBSTITUTE

### Report of the Council on Pharmacy and Chemistry

The following report of a referee on Pam-ala, an asserted malaria specific, was adopted by the Council and its publication authorized.

W. A. PUCKNER, Secretary.

Soon after publication of the Council's report on Sinkina, an alleged malaria specific proved worthless, the referee's attention was called to Pam-ala, which is sold under very similar claims.

According to the advertisements which have been appearing in Southern medical journals, Pam-ala is "A new and effective remedy for MALARIA."

The label describes Pam-ala as "An Effective Vegetable Remedy For MALARIA. Guaranteed free of any Quinine, or other harmful [*sic*] drugs." It is said to be indicated in "Malarial Intermittent and Remittent Fevers, especially curative in Chronic Malaria and Malarial Cachexia and all conditions even where Quinine fails." One tablespoonful three times a day is said to be the "Curative Dose," while one tablespoonful three times a week is stated to be a "Prophylactic Dose." The label further claims that Pam-ala "Surpasses Quinine in its action and has none of its Disadvantages." Assertions that Pam-ala is superior to quinin are followed by the usual "guarantee" claim: "Guaranteed by the Pam-Ala Co. under the Drugs Act, June, 1906, Ser. No. 2909 A." Finally, the label says that it is "Endorsed by Medical Authorities Throughout the world."

As regards the composition, a circular says that "PAM-ALA is a purely vegetable remedy for the cure, without Quinine, of all forms of Malaria." "'PAM-ALA' is derived from a plant of the genus Umbelliferae, a native of the mountainous regions of Mexico and northern parts of South America. Its medicinal properties have not been known to anyone but the native Indians, who for years past have used it as a specific in all forms of fever and malarial diseases so prevalent in tropical countries. The seeds are more active as a therapeutic agent than the dried-up plant; hence their collection for medicinal purposes requires special skill in the selection of the same so as to be able to extract all the possible medicinal properties from them, viz:, its active principle. An oil may be abstracted from the seeds which is of a yellow color with an intense characteristic odor."

At the close of the circular the following unenlightening formula appears:

| Each fluid ounce contains: | |
|---|---|
| Ext. Fld. Pam-ala | 10 per cent. |
| Alcohol | 15 per cent. |
| Ol. Aurant Syr. Sacchari aqua ad. q. s. | 100 per cent. |

In addition to being a cure for malaria, Pam-ala is claimed to have a "favorable influence upon the broncho-pneumonia of measles . . . ," "will avert an attack of acute catarrh," and "abort acute tonsilitis."

The testimonials are of the usual character. Most of them seem to have been given some four years ago by physicians in Italy, Cuba, Porto Rico, Guatemala, etc., and therefore cannot readily be looked into. Two are of more recent date and come from physicians in this country. They furnish good illustrations of the manner in which proprietary concerns make use of opinions hastily formed and thoughtlessly put in writing. One testimonial was given in July, 1912:

"I take pleasure in testifying to the seemingly marvelous and gratifying effect of Pam-ala in 2 cases of malaria. . . ."

On Jan. 2, 1914, its writer, in reply to an inquiry whether in the light of continued experience, his first estimate of Pam-ala had been confirmed, wrote:

". . . Since then I tried Pam-ala on a number of cases without any results whatever; in fact my patients seemed to get worse until I resorted to the usual treatment of malaria, mercurial laxative followed with quinin. I was too hasty in stating that Pam-ala cured malaria. I now know and have known since August, 1912, that Pam-ala will not cure malaria. . . ."

The writer of the second testimonial is reported to have written that he tried Pam-ala "on a most pronounced case of malarial spleen with the most excellent results" and that he "also tried Pam-ala on a case of Malarial Cystitis and Hematuria, with entire satisfaction." In reply to inquiry this physician admits that he was "very favorably impressed with the preparation at the time." He states that at that time he was also trying out Sinkina and that after six months he "discontinued the use of both as the results did not warrant further investigation." He concludes:

"With due allowance for the fact that certain cases will for a time improve on any kind of treatment, new or old, I see no reason for supplanting or even augmenting, the recognized treatment for malarial conditions, with either Pam-ala or Sinkina."

Incidentally it should be mentioned that this physician also noted the general similarity of Sinkina and Pam-ala. He observes:

"The physical appearance and properties of the two preparations seem to be identical, the advertising matter and literature are surprisingly alike and the only marked difference seems to be that one remedy is purported to be prepared from a 'new' South American plant and the other from an equally fresh discovered addition to Asiatic flora."

### WHAT IS PAM-ALA?

From a comparison of the statements regarding the composition which are made for Sinkina and for Pam-ala, as well as from the physical characteristics of the preparation, particularly the odor and taste, it seems evident that the essential constituent is oil of *cumin*. Although definite proof that oil of *cumin* forms the essential constituent of Pam-ala would have shown the worthlessness of this nostrum for the reason that the clinical investigation of Sinkina proved the worthlessness of oil of *cumin*, it did not seem worth while to the referee that this be demonstrated by chemical analysis. It seemed to him that in such cases as these, the secrecy with which the identity of the preparation is surrounded, as well as the extravagant and highly improbable claims, should be sufficient to condemn it.

## QUACKS RETALIATE

### An Attempt to Manufacture Evidence Against Reputable Physicians

When the Chicago *Tribune* published its series of exposures on the "men's specialists" frauds of that city, the quacks attempted to start a "back-fire" against the flame of public indignation that was aroused by the *Tribune's* exposures. Efforts were made to "put up a job" on reputable physicians and surgeons. The thing proved a fiasco.

An effort is now being made, apparently, to accumulate trumped-up evidence against decent physicians in other cities. The letter which follows was addressed to an advertising quack. The letter-head of the stationery reads: "The Accuracy Public Service Co., Expert Secret Service." The latest Chicago telephone directory does not contain the name of any such company; neither does the Chicago city directory. Here is the letter:

Feb. 13, 1914.

*Dear Sir:*—By request of Drs. Hodgens, Ross and Dupuis of Chicago, Drs. Allison, Hughes and Lloyd of St. Louis, Mo., Dr. Thies of Springfield, Ill., and our own personal knowledge we wish to inform you that there is an investigation on foot against the advertising doctors of your city, and that you will become involved in legal difficulties which are identical with those that the doctors of Chicago and St. Louis have been subjected to.

We have rendered services in this connection which have been most satisfactory to our clients in both cities. We have just returned from a very successful campaign in St. Louis, Mo., where we were engaged by Doctors Allison, Hughes, Lloyd and many others in the crusade which was waged against the advertising doctors of that city, and we beg to say that our work of securing the evidence against the ethical members of the Medical Association was a complete success. The evidence procured is of inestimable value to our clients and brought the bitterly fought war to a sudden end, leaving the doctors alone and unmolested.

We take the liberty of offering you our services, assuring you that if you avail yourself of them, we will accomplish the same results for you, as we are specialists in "Getting the Goods," and believe in the old adage "An ounce of prevention is worth a pound of cure." Why not unite to drive out the pernicious and utterly un-American system of the so-called ethical members of the medical fraternity?

We would be pleased to arrange for a personal interview if you so desire.

Respectfully,
THE ACCURACY PUBLIC SERVICE CO.,
Per A. C. WEIS, Mgr.

## RADIUM EXPLOITATION

The recent wide-spread attention given to radium has marked an exploitation comparable in many ways to that characterizing previous medical discoveries—some of which have succeeded, others failed. In many instances newspaper comments bear the earmarks of being prompted by interested parties, are usually extravagant, often ludicrous and generally serve to bring into discredit things which are perhaps deserving of a better fate. An evening paper of Milwaukee says:

"Dr. ———, who is to be head of a corporation composed of Milwaukeeans, has ordered $100,000 worth of radium from various parts of Europe, which will be used to cure cancer and in research work. An institute will be established for these purposes. The amount ordered is 250 mg., which is one-eighth of all the radium in the world. It is expected that the shipment will arrive about May 15. Dr. ——— has become familiar with the treatment of disease with radium through ten trips to Europe."

It may be unnecessary to state that it is impossible to estimate the amount of radium in the world; that present conditions point to the fact that there is at least one hundred times as much as the report mentions, and finally that $30,000 would represent more exactly a fair price for the quantity ordered.

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**The Sanitary Significance of the Body-Cells in Milk.**—It is entirely possible that some of the striking variations in numbers have a sanitary significance, as pathologic conditions would certainly affect the discharge of these body-cells. It seems probable, however, that the change produced by pathologic conditions may not always be an increase in numbers of cells. Pathologic disturbances in the blood are indicated just as surely by a decrease in numbers of red or white cells as by the reverse condition. Inasmuch as we have but very few data as yet on which to base conclusions, it is impossible to make even a guess as to the final conclusions regarding the significance of the variations in number and character of the cells. The cells certainly do not have the significance of pus-cells under ordinary conditions, nor does it seem probable that it will be possible to recognize the admixture of pathologic with normal milk by means of these cells alone. With our present knowledge, it is certainly impossible to make this distinction.—Robert S. Breed, *Jour. Infect. Dis.*

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# Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

## CREOSOTE IN PRESCRIPTION

*To the Editor:*—On page 186 of the "Handbook of Therapy," third edition, appears the following prescription:

℞ Creosoti (beechwood, the best) ..... gtt. vi
Glycerini ..... ℥ss i
Spiritus frumenti ..... ℥ss ii

M. et sig.: A dessertspoonful every two, three or four hours, diluted with a little water.

1. Is this prescription meant to be a 2- or a 3-ounce mixture?

2. Is the amount of creosote correct as given in the prescription? The dose seems so small that little benefit could be expected from it. A. E. CONTER, M.D., Chattahoochee, Fla.

ANSWER.—I. The prescription is intended for a 3-ounce mixture, which would furnish twelve doses, each dose containing ½ drop of creosote.

2. Yes. It is always wise to begin the treatment of tuberculosis with creosote with small doses. In this case the patient would receive from 2 to 3 drops in twenty-four hours. After the first prescription is finished, the next should, according to the advice of those who believe in the creosote treatment of tuberculosis, contain double this quantity of creosote, namely, 12 drops to the mixture. The creosote should then gradually be increased to the point of tolerance, which means that there is some indigestion, the appetite is lost, or perhaps some intestinal disturbance may occur. The dose is then reduced to the amount that the patient well tolerates, and is then best given directly after meals, three times a day. The larger doses must always be very well diluted. Also, when larger doses are administered, the urine should be frequently examined for albumin, or for signs of phenol poisoning, and if the kidneys are at all disturbed or the urine is abnormal, the creosote should be stopped.

The prescription given in the "Handbook of Therapy" is intended to represent a method in which creosote is frequently given by clinicians who believe the combination to be of special value. Ordinarily it would be better to substitute for the spiritus frumenti some non-alcoholic menstruum, such as plain water or peppermint-water.

## STERILIZATION OF TOBACCO

*To the Editor:*—I am doing some research work with tuberculosis and tobacco. Would you kindly give me a little important information? Will a temperature of 120 in the autoclave for five minutes destroy or materially change the essential substances in tobacco? I wish to sterilize the tobacco, and then make an infusion. I also wish to make an infusion and sterilize it for experimentation with tuberculosis. L. S. OPPENHEIMER, M.D., Tampa, Fla.

ANSWER.—There are so many substances in tobacco that it would be an endless task to investigate in the literature to learn whether or not each and all would be decomposed or altered at 120. Nicotin, the chief base, occurring to the extent of from 0.6 to 9 per cent., depending on the variety of tobacco, is rather stable and probably would not be altered by heating at 120. In extracting nicotin, the tobacco is treated with steam, and as this does not decompose the nicotin it is not likely that a few degrees higher would produce much change.

## ARTICLES ON SCARLET FEVER

*To the Editor:*—Please refer me to English articles of importance on the subject of scarlet fever published within the last eighteen months. ESTHER MITCHELL, M.D., Monmouth, Ill.

ANSWER.—The following is a list of references on this subject:

Inclusion Bodies in Scarlet Fever, editorial, THE JOURNAL, March 8, 1913, p. 750.
Fishbein, M.: Functional Test (Phenolsulphonephthalein) of the Kidney in Scarlet Fever, THE JOURNAL, Oct. 11, 1913, p. 1368.
Serotherapy of Scarlet Fever, Queries and Minor Notes, THE JOURNAL, Jan. 24, 1914, p. 315.
Granger, J., and Pole, C. K.: Inclusion Bodies in Scarlet Fever, *Brit. Jour. Child. Dis.*, January, 1913; abstr., THE JOURNAL, Feb. 8, 1913, p. 479.
Porak, R.: Pulmonary Complications of Scarlet Fever, *Bull. Soc. de pédiat. de Paris*, 1912, xiv, No. 9; abstr., THE JOURNAL, Feb. 22, 1913, p. 631.
Mery, H., and Others: Scarlatinal Uremia with Blindness, *Bull. Soc. de pédiat. de Paris*, 1912, xiv, No. 9; abstr., THE JOURNAL, Feb. 22, 1913, p. 631.
Mead, F. H.: Scarlet Fever: Is Desquamatory Stage Contagious? *Med. Rec.*, New York, Feb. 15, 1913; abstr., THE JOURNAL, March 1, 1913, p. 699.
Lind, L. C.: Factors Concerned in Spread of Scarlet Fever, *Cleveland Med. Jour.*, February, 1913; abstr., THE JOURNAL, March 22, 1913, p. 941.
Draper, G., and Hanford, J. M.: Experiments on Transmission of Scarlet Fever to Monkeys, *Jour. Exper. Med.*, May, 1913; abstr., THE JOURNAL, May 17, 1913.
Elgart, J.: Eucalyptus Oil in Scarlet Fever, *Med. Klin.*, Aug. 3, 1913; abstr., THE JOURNAL, Sept. 13, 1913, p. 906.
Kretschmer, M.: Etiology of Scarlet Fever, *Jahrb. f. Kinderh.*, September, 1913; abstr., THE JOURNAL, Oct. 18, 1913, p. 1496.
Szontagh, F. von: Angina and Scarlet Fever, *Jahrb. f. Kinderh.*, December, 1912; abstr., THE JOURNAL, Feb. 1, 1913, p. 406.
Fischer, L.: Treatment of Scarlet Fever with Intravenous Injections of Neosalvarsan, *Arch. Pediat.*, May, 1913; abstr., THE JOURNAL, July 12, 1913, p. 143.
Gerstley, R.: Diet in Scarlet Fever, *Monatschr. f. Kinderh.*, 1913, xii, No. 3; abstr., THE JOURNAL, Aug. 16, 1913, p. 520.
Manasse, P.: Scarlet Fever and the Ear, *Monatschr. f. Kinderh.*, 1913, xii, No. 3; abstr., THE JOURNAL, July 19, 1913, p. 230.

## DISINFECTION OF THE HANDS

*To the Editor:*—1. What effect does prolonged scrubbing with soap and running water have as regards freeing the hands from the danger of carrying infection?

2. Are hands prepared thus and subsequently soaked for five minutes in alcohol safe for ordinary surgical procedures?

RAY ERNEST SMITH, M.D., Rutland, Vt.

ANSWER.—Prolonged scrubbing removes the external layers of the epidermis and some of the bacteria. There is a difference between practical results and technical laboratory results. Practical results show that proper washing with soap and water followed by scrubbing, not simply soaking, with from 70 to 80 per cent. alcohol gives clean hands, and that if this process be thoroughly followed no cultures will be made from surface contact, or in other words, from the surface of the hands; but if bits of skin be cut off from the hands so as to include the depth of the follicles, germs may be found which have been hidden in the depths of the follicles.

2. The reason that it is not desirable to operate with bare hands thus prepared is that the hands perspire and the use of the hands in handling instruments and tissues brings germs to the surface and thus makes it possible to infect the wound. While practical experience shows that the danger is very slight, yet the possibility of it makes it desirable not to operate without wearing properly sterilized gloves.

Notwithstanding the fact that experiments show that alcohol is not a germicide, practical results show that its proper use cleanses the hands better than any other method in use to-day. The trouble is that most surgeons have either had a little alcohol poured over the hands or dip the hands into the alcohol, both methods being useless. The hands must be scrubbed in order to be cleaned successfully.

## REPAIR OF CERVICAL LACERATIONS—TREATMENT OF PARALYSIS AFTER POLIOMYELITIS

*To the Editor:*—1. Please give the most recent ideas concerning the treatment of lacerations of the cervix uteri during childbirth. Is immediate repair advocated by good authority, and if so, by whom?

2. What, in addition to persistent massage, is considered good treatment for a case of paralysis of the lower limbs and a consequent indisposition to walk, following an attack of poliomyelitis in a child 2½ years old?

H. TROSSBACH, M.D., Colorado Springs, Colo.

ANSWER.—1. Slight radial or longitudinal lacerations of the cervix occur in nearly all labors. They are not important and no authority recommends that they be searched for and repaired. More extensive tears, extending up to the vaginal fornix or even into the supravaginal portion of the cervix, rarely occur in spontaneous labors, but result frequently from operative deliveries and especially when operations are made before dilatation of the cervix. They generally cause considerable hemorrhage, which is sometimes dangerous. In these cases the hemorrhage is an indication for repair, which is advised by practically all authors. In case of operative delivery, even when there is no considerable hemorrhage, an examination to determine the condition of the cervix is desirable, either digital or by aid of retractors, and when a laceration is found it should be repaired. Extensive spontaneous lacerations are not common, and it is not advised to make a routine examination immediately after labor for the purpose of finding them when there is no hemorrhage. Hirst of Philadelphia examines all patients from the fifth to the seventh day of the puerperium to discover cervical and vaginal lacerations, and makes at that time the "intermediate" repair. Most authors recommend an examination

at the end of two weeks or later, when a bad laceration can be repaired or arrangements made for a later operation.

2. A cautious use of electricity may be made, beginning after the acute stage has passed. Massage may also be employed but should not be overdone. Care should be taken to correct faulty positions of the limbs so that deformities may not occur. Muscle education is an aid in restoring lost functions. The most important surgical measures to be considered are proper braces, tendon shortening, arthrodesis in certain cases, suspension by silk tendons, tendon transplantation and nerve transplantation.

Reference may be made to the following recent articles:

Ryerson, E. W.: The Surgery of Infantile Paralysis, THE JOURNAL, Nov. 1, 1913, p. 1614.
Frauenthal, H. W.: The Treatment of Paralysis of Anterior Poliomyelitis, THE JOURNAL, Dec. 20, 1913, p. 2219.

## ARTICLES ON PNEUMOCOCCUS VACCINE THERAPY

*To the Editor:*—I am preparing a paper on pneumococcus vaccine therapy, to be read before our local medical society sometime in the near future. May I ask you to send me a complete bibliography on this subject? PETER POTTER, M.D., Butte, Mont.

ANSWER.—Following is a list of references to this subject:

Rosenow and Hektoen: Treatment of Pneumonia with Partially Autolyzed Pneumococci, THE JOURNAL, Dec. 20, 1913, p. 2203.
Rosenow, E. C.: Autolysis of Pneumococci and the Effect of the Injection of Autolyzed Pneumococci, THE JOURNAL, Sept. 7, 1912, p. 795.
Charteris, F.: Treatment of Pneumonia by Polyvalent Stock Pneumococcic Vaccine, *Glasgow Med. Jour.*, January, 1912; abstr., THE JOURNAL, Feb. 3, 1912, p. 376.
Robertson, W. E., and Illman, G. M.: Value of Bacterins in Pneumonia, *Pennsylvania Med. Jour.*, January, 1912; abstr., THE JOURNAL, Feb. 10, 1912, p. 347.
Jones, G. P.: Two Cases of Pneumonia Treated with Pneumococcus Vaccine, *Lancet*, London, March 2, 1912.
Raw, N.: Value of Pneumococcus Vaccine in Treatment of Pneumonia, *Lancet*, London, March 9, 1912.
Rosenow, E. C.: Immunity in and Specific Treatment of Pneumonia, *Illinois Med. Jour.*, April, 1912; abstr., THE JOURNAL, May 18, 1912, p. 1542.
Vaccine and Serum Treatment of Pneumonia, Queries and Minor Notes, THE JOURNAL, June 8, 1912, p. 1773.
Bispham, W. N.: Series of Cases of Pneumonia Treated by Vaccines, *Mil. Surgeon*, June, 1913; abstr., THE JOURNAL, July 19, 1913, p. 223.
Hirschfelder, J. O.: Production of Active and Passive Immunity to the Pneumococcus with a Soluble Vaccine, THE JOURNAL, Oct. 12, 1912, p. 1373.
Vaccine Treatment of Pneumococcic Affections, Queries and Minor Notes, THE JOURNAL, Oct. 11, 1913, p. 1393.

## BAD FOR THE TEETH AND THE PHARMACIST

*To the Editor:*—The following is taken from the ———— for December, 1913:

TEETH DISCOLORED BY IRON

Combe recommends rubbing the teeth lightly, each day once, with a stick that has been covered with cotton and dipped in the following solution:

℞ Acidi hydrochlorici fumantis
Aquae destillatae, āā ..... 5 c.c.
M. et ft. solutio.
Following this, for fifteen days use this powder:
℞ Potassii chloratis ..... 5 gm.
Cretae preparatae ..... 10 gm.
Pulveris iridis florentini ..... 20 gm.
M. et ft. pulv.

1. Is this a good way to clean teeth? 2. Or should the editor of the —— be required to triturate violently a goodly quantity of potassium chlorate with suitable organic matter? S. W. W.

ANSWER.—1. No. The use of strong hydrochloric acid even when diluted with an equal quantity of water would be injurious to the enamel of the teeth.

2. Without doubt the editor referred to is aware of the danger of triturating organic matter and potassium chlorate together. Every pharmacist of course knows this and every physician ought to know it.

## SIGNS IN TUBERCULOSIS AND MENINGITIS

*To the Editor:*—Please give the method of eliciting the following signs and their value in diagnosis: 1. Pottenger's sign in tuberculosis; (2) MacEwen's sign in epidemic cerebrospinal meningitis, and (3) Brudzinski's sign in epidemic cerebrospinal meningitis.

O. F. SCOTT, M.D., Argo, Ill.

ANSWER.—1. The term "Pottenger's sign" is applied to two methods: (*a*) Intercostal muscle rigidity on palpation in pulmonary and pleural inflammatory conditions, and (*b*) different degrees of resistance on light touch palpation, noted (1) over solid organs when compared with hollow organs, and (2) over foci of disease in the lungs and pleura when compared with that over normal organs. The value of this sign is not yet determined.

2. In percussion of the skull behind the junction of the frontal, temporal and parietal bones, there is a more resonant note than normal in internal hydrocephalus and cerebral abscess. It is not a constant sign, nor one easily obtained in meningitis.

3. A. In meningitis, when the neck of the patient is bent, flexure movements of the ankle, knee and hip are produced. B. In meningitis, when passive flexion of the lower limb on one side is made, a similar movement will be seen in the opposite limb; called also contralateral reflex.—American Illustrated Medical Dictionary.

## RELATION OF RICKETS TO DENTITION

*To the Editor:*—1. Please give a list of references on the relation of rickets to dentition in infancy and early childhood.

2. Is there a good therapeutic treatise on oral and dental hygiene during the first years?

JAMES WENDEL ROSENFELD, M.D., Portland, Ore.

ANSWER.—1. The following may be referred to:

Marshall, J. S.: Mouth Hygiene and Mouth Sepsis, Philadelphia, J. B. Lippincott Company, 1912, $1.50.
Hunter: Oral Sepsis, Chicago Medical Book Company, $1.
Barton, J. K.: Nutrition, Rickets and Dental Defects, *Brit. Dent. Jour.*, 1903, xxiv, 265.
Labbey, G.: Contribution à l'étude des retards de la première dentition chez les rachitiques, Paris, 1904.
Abt, I. A., and Frank, M.: Rachitic Erosions of the Permanent Teeth Associated with Lamellar Cataract, THE JOURNAL, Oct. 3, 1908, p. 1130.
Helbich, H.: Defective Development of Teeth in Relation to Rachitis and Spasmophilia, *Arch. f. Kinderh.*, 1913, lx-lxi (A. Baginsky Festschrift).

2. We do not know of any special treatise on the subject.

## WORKS ON HYPNOTISM

*To the Editor:*—If there is anything of value in hypnotism, please tell me of a good work on the subject.

JAMES FARRAGE, M.D., Deering, N. Dak.

ANSWER.—Following is a list of references on the subject of hypnotism:

Moll: Hypnotism, New York, Scribner's Sons Company.
Hilger, W.: Hypnosis and Suggestion, New York, Rebman Company.
Miller, H. C.: Hypnotism and Disease, Boston, Richard G. Badger, 1912.
Bramwell: Hypnotism and Treatment by Suggestion, New York, Funk and Wagnalls.
De Courmellas: Hypnotism, New York, G. Routledge & Sons.
Forel: Hypnotism, New York, Rebman Company.
Mason: Hypnotism and Suggestion, New York, Henry Holt & Co.
Wetterstrand: Hypnotism, New York, G. P. Putnam's Sons.

## BOOKS ON OCCUPATIONAL DISEASES

*To the Editor:*—The article on braziers' disease, by Charles A. Pfender, THE JOURNAL, Jan. 24, 1914, p. 296, leads me to inquire of you as to some publication that covers the subject of occupational diseases. F. V. GAMMAGE, M.D., Columbus, Ohio.

ANSWER.—Following is a list of books dealing with this subject as a whole:

Oliver: Dangerous Trades, New York, E. P. Dutton, $8.
Oliver: Diseases of Occupation, New York, E. P. Dutton, $3.
Greer, W. J.: Industrial Diseases and Accidents, Bristol, J. W. Arrowsmith, 1909, 339 pages.
Rambousek, J.: Industrial Poisoning, New York, Longmans, Green & Co., 1913, 339 pages, $3.50 net.

## STETHOPHONE, NOT STETHOSCOPE?

*To the Editor:*—Mails are slow in these parts in winter, and so I did not see, until to-day, the communication of Kollege Barach on the "Stethophone, Not Stethoscope" (THE JOURNAL, Feb. 14, 1914, p. 553). I think I know Barach, and I know A. Rose; but who in Hades is or are Thomas Nelson & Sons, New York, and why should their opinion on a matter of medical terminology be better than that of any one else? Hasn't "our Editor" all the dictionaries and lexicons necessary? Laennec was something of a Greek expert, and he at first thought his "so simple instrument" did not need a special name; but having heard several, "some of them barbarous and all improper," he decided on the name "stethoscope" as most appropriate, indicating the "exploration," and not looking for other meanings that might frighten "smug conventionality." For almost a century the term has been used without disadvantage. Why enlarge the dictionaries by replacing it by a Pittsburgh-New York innovation?

Yours for accuracy,
TOBIAS STRINGFELLOW, Pikeville, Pike Co., Mo.

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# Medical Education and State Boards of Registration

## COMING EXAMINATIONS

ARIZONA: Phoenix, April 7. Sec., Dr. John Wix Thomas, Phoenix.
COLORADO: Denver, April 7. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.
CONNECTICUT: New Haven, March 10. Sec., Dr. Charles A. Tuttle, New Haven. Homeopathic: New Haven, March 10. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven. Eclectic: New Haven, March 10. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.
IDAHO: Wallace, April 7. Sec., Dr. John F. Schmershall, Jerome.
MAINE: Portland, March 10-11. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.
MASSACHUSETTS: Boston, March 10-12. Sec., Dr. Walter P. Bowers, Room 159, State House, Boston.
MINNESOTA: Minneapolis, April 7-10. Sec., Dr. Thomas McDavitt, 814 Lowry Bldg., St. Paul.
MONTANA: Helena, April 7. Sec., Dr. Wm. C. Riddell, Helena.
RHODE ISLAND: Providence, April 2. Sec., Dr. Gardner T. Swarts, Room 315, State House, Providence.
UTAH: Salt Lake City, April 6-7. Sec., Dr. G. F. Harding, 403 Templeton Bldg., Salt Lake City.
WYOMING: Laramie, March 10-12. Sec., Dr. H. E. McCollum, Laramie.

## Arkansas Reciprocity Report

Dr. W. S. Stewart, secretary of the State Medical Board of the Arkansas Medical Society, reports that 21 candidates were licensed through reciprocity from Jan. 1 to Aug. 15, 1913. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| Atlanta College of Physicians and Surgeons | (1912) | Georgia |
| American Med. Missionary College, Chicago | (1905) | Nebraska |
| Indiana University | (1911) | Indiana |
| Medical College of Indiana | (1895) | Indiana |
| Kentucky School of Medicine | (1898) Texas; (1906) | Kentucky |
| Louisville Medical College | (1893) | Oklahoma |
| Louisville National Medical College | (1904) | Kentucky |
| Tulane University (1908) Louisiana; (1910) Louisiana; (1913) Louisiana. | | |
| St. Louis Medical College | (1889) | Oklahoma |
| St. Louis University | (1905) | Illinois |
| Ohio Medical University | (1898) | Ohio |
| Starling Medical College | (1901) | Indiana |
| College of Physicians and Surgeons, Memphis | (1911) | Mississippi |
| Meharry Medical College | (1912) | Oklahoma |
| Memphis Hospital Medical College | (1899) | Mississippi |
| Universities of Nashville and Tennessee | (1911) | Mississippi |
| University of the South, Sewanee, Tenn. | (1901) | Kentucky |
| Fort Worth University, Med. Dept. | (1901) | Oklahoma |

## Arkansas November Eclectic Report

Dr. C. E. Laws, secretary of the Arkansas Eclectic Medical Board, reports the oral, practical and written examination held at Little Rock, Nov. 11-12, 1913. The number of subjects examined in was 3; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 3, all of whom passed. Two candidates were licensed through reciprocity. The following colleges were represented:

PASSED

| College | Year Grad. | Per Cent. |
|---|---|---|
| Georgia College of Eclectic M. and S. | (1910) | 76.2 |
| American Medical College, St. Louis | (1903) | 89.5 |
| Eclectic Medical University, Kansas City | (1913) | 76.6 |

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| Georgia College of Eclectic M. and S. (1912) Georgia; (1913) Georgia. | | |

## Rhode Island January Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the practical and written examination held at Providence, Jan. 8-9, 1914. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 3, of whom 2 passed and 1 failed. The following colleges were represented:

PASSED

| College | Year Grad. | Per Cent. |
|---|---|---|
| Harvard Medical School | (1905) | 90.2 |
| University of Toronto, Faculty of Medicine | (1913) | 88.8 |

FAILED

| | | |
|---|---|---|
| Laval University | (1912) | 76.5 |

## Maryland December Report

Dr. J. McP. Scott, secretary of the Board of Medical Examiners of Maryland, reports the written examination held at Baltimore, Dec. 9, 1913. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 56, of whom 32 passed and 24 failed, including 2 non-graduates. Nine candidates were licensed through reciprocity. The following colleges were represented:

PASSED

| College | Year Grad. | Per Cent. |
|---|---|---|
| Columbian College, Medical Department | (1904) | * |
| George Washington University | (1910) 76; (1912) | 87 |
| Baltimore Medical College | (1913) 82, 82, | 89 |
| College of Physicians and Surgeons, Baltimore | (1913) 81, 83 | 85 |
| Johns Hopkins University | (1903) *; (1910) 85; (1912) | 83 |
| Maryland Medical College | (1912) 75; (1913) 79, 80, 85 | |
| University of Maryland (1911) 76; (1912) 82; (1913) 76, 77, 78, 80, 86, 92. | | |
| Tufts College Medical School | (1913) | 86 |
| Jefferson Medical College | (1910) 84; (1911) | 91 |
| Temple University, Philadelphia | (1912) | 77 |
| University of Pennsylvania | (1909) | 78 |
| Woman's Medical College of Pennsylvania | (1913) | 77 |
| Medical College of Virginia | (1913) | 78 |
| University of Edinburgh, Scotland | (1902) | 85 |

FAILED

| | | |
|---|---|---|
| Baltimore Medical College | (1913) 69, | 73 |
| College of Phys. and Surgs., Baltimore | (1911) 66; (1913) | 70, *† |
| Maryland Medical College | (1912) 72, *, *, *, *; (1913) | 67, * |
| Univ. of Maryland (1911) *; (1912) 69, 70, 74; (1913) | | * |
| College of Physicians and Surgeons, Boston | (1911) | * |
| Eclectic Medical College, Cincinnati | (1912) | * |
| Meharry Medical College | (1912) *; (1913) | * |
| National University, Athens | (1910) | 55 |
| Non-graduates | * | * |

* No grade given
† Failed to take full examination.

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| Atlanta School of Medicine | (1913) | Georgia |
| Hospital College of Medicine, Louisville | (1907) | Tennessee |
| College of Physicians and Surgeons, Baltimore | (1900) | Maine |
| Maryland Medical College (1907) Virginia; (1911) Virginia; (1913) Georgia. | | Virginia |
| University of Maryland | (1909) | Virginia |
| New York University | (1897) | Missouri |
| Starling-Ohio Medical College | (1912) | Ohio |

One candidate, a graduate of the University of Michigan, Homeopathic College, in 1913, was licensed through reciprocity with Michigan by the Maryland Board of Medical Examiners (Homeopathic), Dec. 15, 1913.

The following questions were asked:

### ANATOMY

1. Give the characteristic anatomic features of the first, second and tenth ribs. 2. Describe the greater omentum. 3. Describe the quadriceps extensor muscle. 4. What nerves are found in the orbit? 5. Describe the rectum. 6. Name (*a*) temporary teeth, (*b*) permanent teeth. 7. Describe the bladder. 8. Describe the external ear. 9. Give the location of openings from the accessory sinuses into the nose. 10. Bound the anterior and posterior triangles of the neck.

### CHEMISTRY

1. Define and give example (formula) of (*a*) acid salt (*b*) tribasic acid. 2. A patient to whom the doctor gave a large dose of calomel became nauseated and took lime-water as a remedy: what chemical changes probably occurred? Illustrate by formulas. 3. Give the chemical names and formulas of the following: sugar of lead, flowers of sulphur, blue vitriol, white lead, red lead, baking-soda, quick lime, lime-water, limestone, blue stone. 4. Nitrous oxid: preparation, chemical and physical properties. 5. Sulphur: source and preparation. Name three inorganic chemical compounds containing sulphur and give formulas. 6. Iron: source and valence. Give names and formulas of three inorganic compounds containing iron. Give one reaction of iron with a monobasic acid (write formula). 7. Arsenic: source and valence. Give the most important inorganic compound with formula. What is its most important organic compound from a medicinal standpoint? Is this a natural or a synthetic compound? 8. A sample of well-water examined by the state chemist showed the following: free chlorin, 13 parts per thousand; nitrates, 0.18; nitrites, 0.5; albuminoid ammonia, trace; comment on this. 9. Chloroform. To what class of chemical substances does it belong? Give graphic formula. Give its physical and chemical properties. 10. Point out the analogy between marsh-gas (paraffin) and the benzene series of hydrocarbons. Name two prominent members of each group.

### PHYSIOLOGY

1. Where is the respiratory center located? (*b*) What is the relation of respiration to the nervous system? (*c*) Describe a method of producing artificial respiration. 2. Define secretion and excretion. (*b*) What is the difference between external and internal secretion? (*c*) Name the glands of each class. 3. What is meant by the "balance of nutritive exchange" and how is it ascertained? 4. State what you know of the constitution of muscle tissue, the reaction and constituents. (*b*) Define rigor mortis and give the cause. 5. What is meant by absorption and nutrition? (*b*) What

absorption takes place in the mouth, stomach, and small and large intestine? (c) What are the sources by which the waste products are eliminated from the system? 6. Lymph: description, composition and function. (b) State the theories as to the secretion. 7. What purpose is served by the valves of the veins and how are they formed? (b) Name some of the veins that have no valves. 8. What is meant by the vasomotor nervous system? 9. What is animal heat and how sustained? (b) The difference between warm and cold-blooded animals? (c) The normal temperature of the body and the modifying influences over the temperature. 10. Where in the body is each of the following found and what is the function of each: pepsin, trypsin, glycogen, ptyalin, synovia and saliva?

PATHOLOGY

1. Describe mode of transmission of and prophylactic measures used to guard against malarial fevers. What are the principal pathologic changes noted in chronic estivo-autumnal malaria? 2. Describe the general pathologic changes noted after death from congenital heart-disease (morbus cæruleus). 3. Describe the morbid changes occurring in and the anatomic changes that may result from gonorrheal epididymitis. 4. What are adenoids? Discuss the usual pathologic results of well-marked neglected cases. 5. Give practical directions for preventing the spread of typhoid fever. 6. Describe the lesions found in herpes zoster. 7. How does acute miliary tuberculosis originate? 8. Describe a hemorrhoid. 9. What is the difference between a sinus and a fistula? 10. Define edema. Mention at least five conditions that will cause edema of both legs.

THERAPEUTICS

1. Write a prescription in Latin, without abbreviation, containing four ingredients; state condition for which intended. 2. Write a prescription emulsionizing Ol. terebinthinae; give dose and indications for use. 3. Give therapy of carbolic acid, symptoms of poisoning and antidote. 4. Give the therapy of hydg. bichlor., symptoms of poisoning and antidote. 5. Name two respiratory stimulants and two vasomotor depressants. 6. Explain the theory of diaphoresis. Name three diaphoretics. 7. Explain the immunizing and curative effects of an antitoxin. 8. Give the therapeutics of aconite. 9. Strophanthin: therapy and best method of administration. 10. Gastric lavage: method of use and general therapy.

MATERIA MEDICA

1. What is an acid? Name those in general use, the doses and strength in which they are used. 2. Name five remedies used hypodermically and give doses of each. 3. Ammonium. Give six preparations of ammonium and their doses. 4. Name five preparations each of iron, mercury and potassium and their doses. Give the incompatibles of iron and mercury. 5. Write a prescription containing chloral hydrate and bromid of potash for an adult. 6. Name three vermicides. Give average dose and state against which variety used. 7. Give official name and dose of: Dover's powder; paregoric; Donovan's solution; brown mixture; Fowler's solution; Hoffman's anodyne. 8. Aconite. Veratrum viride. To what class of drugs do they belong? The official preparations and doses. 9. Antimony. Give the official preparations and doses. Name two compounds into which antimony enters and their doses. 10. Diphtheria antitoxin. How prepared? Define "unit." Give immunizing and curative doses for a child 3 years old.

OBSTETRICS

1. Describe symptoms and treatment in a case of adherent placenta (third stage of labor). 2. Describe the changes which commonly occur in the head of the child in vertex presentations during a lingering labor, and state their causes. 3. Give varieties of placenta praevia. 4. Describe Harris' method of dilatation of the cervix. 5. Give methods of inducing labor at the eighth month. 6. What are the indications for the use of forceps when the head is at the pelvic outlet. 7. What form of malignant disease may attack the uterus? 8. Describe umbilical hernia of the new-born. 9. What troubles are liable to occur in the mouth of an infant, and what measures would you use to prevent them? 10. Describe the Porro operation, or celiohysterectomy.

SURGERY

1. Give the causes, symptoms and treatment of acute iritis. 2. Give the symptoms and treatment of suppurative mastoiditis. 3. What is the significance of blood in the urine? 4. Give symptoms, diagnosis and treatment of tuberculous disease of the knee. 5. What inflammatory conditions may arise in the right iliac region, with symptoms of each? 6. Give etiology and symptoms of cerebral abscess. 7. Give differential diagnosis of dislocation of hip from fracture of surgical neck of femur. 8. State the most common seat of fracture of the clavicle; give symptoms and describe a method of tratment. 9. What are the indications for removal of the mammary gland? 10. Describe a complete inguinal hernia; give symptoms of strangulation and treatment.

PRACTICE

1. Define: (a) endemic disease; (b) anasarca; (c) Bell's paralysis; (d) herpes zoster; (e) hematemesis. 2. Define: (a) chlorosis; (b) hemophilia; (c) Hodgkin's disease; (d) aphasia; (e) hydronephrosis. 3. Differentiate variola and varicella. 4. Differentiate bronchopneumonia and lobar pneumonia. 5. Differentiate neuritis and rheumatism. 6. Differentiate hepatic, intestinal and renal colic. 7. Give treatment of lobar pneumonia. 8. Give treatment of variola. 9. Give treatment of tetanus. 10. Give treatment of acute nephritis.

## Correction

We have been asked to announce that the Hahnemann Medical College of Philadelphia was elected to full membership in the Association of American Medical Colleges at the Association's annual meeting of 1913, but that through an error its name was not included in the lists of members published in the annual *Transactions* of that Association.

# Book Notices

DIE WASSERMANNSCHE REAKTION MIT BESONDERER BERÜCKSICHTIGUNG IHRER KLINISCHEN VERWERTBARKEIT. Von Dr. Harold Boas, Privatdozent an der Universität. Mit einem Vorwort von Geh. Med.-Rat Prof. A. Wassermann. Second Edition. Paper. Price, 7.60 marks. Pp. 242. Berlin: S. Karger, 1914.

The second edition of this excellent monograph shares with the well-known work of Noguchi, on "The Serum Diagnosis of Syphilis," the honor of being the most comprehensive and authoritative work dealing with this subject. The technic followed by Boas in his work, as is to be expected, is that of Wassermann, the sheep-hemolytic system being used; while Noguchi employs the human-hemolytic system. The antigen which Boas employs for the most part is an alcoholic extract of human heart (normal or pathologic) as advocated by Michaelis, instead of the aqueous extract of syphilitic liver as originally employed by Wassermann. In this connection it is interesting to recall that the addition of cholesterin to such alcoholic heart extracts greatly increases their efficacy, as Sachs has shown. Boas agrees with this point, but does not employ the combined antigen in many of his tests. Recent work by Kolmer, Laubaugh, Casselman and Williams has established this cholesterin antigen in its proper place.

An extensive discussion concerning the Wassermann reaction in non-syphilitic conditions is given, Boas' results indicating only five positive reactions in 1,927 control cases. Much emphasis is laid on proper technic, and the possible errors of the test are given careful attention. The method of interpretation is elaborated and the worker cautioned against drawing too fine conclusions. A positive Wassermann reaction is regarded as definite evidence of syphilis, while a negative reaction does not exclude the condition, no prognostic or therapeutic meaning being attached to such a negative test. Although a positive reaction indicates syphilis, it is emphasized that it does not necessarily denote that the lesions are syphilitic for which the physician was led to apply the test.

A very thorough and convincing discussion is given on the influence of treatment on the Wassermann reaction and the fact, well known to workers in this field, is elaborated that previous negative or positive Wassermann tests may be converted either into positive or negative tests, as the case may be, under the influence of mercuric or arsenical treatment. It is evident, therefore, that hard and fast lines cannot be drawn regarding the efficacy of treatment if the basis of judgment is made a single negative or positive Wassermann reaction. Boas believes that a patient under treatment should not be regarded as cured unless negative serologic tests are obtained each month during the first year, every six months during the next year and, finally, a negative "provocative" Wassermann under the influence of a salvarsan injection. He further adds that the spinal fluid should show negative chemical and serologic properties at the end of the period of treatment. It will be recalled that Craig adds to this list a negative luetin test. Especially instructive are the tables showing results of this test in various types of syphilitic conditions as well as in non-syphilitic conditions.

A MANUAL OF SURGICAL TREATMENT. By Sir W. Watson Cheyne, Bart., C.B., D.Sc., Senior Surgeon to King's College Hospital, and F. F. Burghard, M.S., F.R.C.S., Surgeon to King's College Hospital. New Edition revised and Largely Rewritten by T. P. Legg, M.S., F.R.C.S., Surgeon to the Royal Free Hospital, and Arthur Edmunds, M.S., F.R.C.S., Surgeon to the Great Northern Central Hospital. Volume V. Cloth. Price, $6. Pp. 619, with 152 illustrations. Philadelphia: Lea & Febiger, 1913.

The fifth and last volume in this series is devoted to the treatment of the surgical affections of the pancreas, liver, spleen, neck, breast and thorax and the genito-urinary organs. An extensive revision of the text has been made and many new illustrations added. In speaking of gall-stones the authors fail to mention the fact that the patient does not suffer with pain unless the stone is moving; that when it is definitely lodged, pain is not a symptom. Again, it is stated that when the stone is in the common duct there is always jaundice, a statement not confirmed by clinical observation. The medical treatment of tuberculous cervical lymph-

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nodes is well described, and the indications for surgical treatment are stated concisely. "Many cases do well without operation" is now a well-known fact. The status of treatment of ophthalmic goiter is succinctly put as follows: "Medical treatment cannot be relied on to cure the disease and should always be employed as a preliminary to surgical measures. Operation should only be undertaken by a surgeon who is accustomed to operating on the thyroid," advice which it is well to heed because the risks of operation in this disease are great. The authors are very optimistic about the surgery of mammary carcinoma. They state that "the results of treatment are on the whole extremely satisfactory, more than half the unselected patients operated on remaining free from recurrence—at any rate, for several years." The clinical experience of most surgeons does not accord with this statement because the unselected cases are usually late cases in which operation offers little if any hope of cure. Such statements surely do harm. The advice to remove the entire breast and its corresponding lymphatic area as high as the apex of the axilla, no matter how small the tumor, is good.

The surgery of the genito-urinary organs is discussed fully. Considerable space is devoted to methods of examination, including pyelography and renal function tests. On the whole, the book cannot fail to be of value, because it is well written by men of wide and varied experience, who have not failed to present a difficult and complex subject in an interesting as well as instructive manner.

CONTRIBUTION À L'ÉTUDE HISTOLOGIQUE DE L'HYPOPHYSE PENDANT LA GESTATION. Par Docteur Alfred Siguret, de la Faculté de Médecine de Paris. Paper. Pp. 60, with illustrations. Paris: Jouve & Cie, 1912.

In this little brochure the author describes the changes which he has observed in the hypophysis during pregnancy. His experiments were made on guinea-pigs and rabbits, and as a result of his studies he concludes that during gestation the glandular lobe of the hypophysis undergoes histologic modifications. Among the changes, those which appeared to him the most marked were: (1) Enlargement of the cellular cords. (2) General hypertrophy of the cells and their nuclei. (3) Diminution of the number of the chromophobe cells and augmentation of the siderophil cells. He believes that the increased activity of the hypophysis due to these changes has something to do with regulating the period of gestation.

MANUAL OF X-RAY TECHNIC. By Arthur Christie, Instructor in Radiology and Operative Surgery, Army Medical School, Washington. Cloth. Price, $2. Pp. 104, with 42 illustrations. Philadelphia: J. B. Lippincott, 1913.

This manual has been prepared "with a view to the needs of the medical service of the United States Army," that is, for men who are compelled to rely on themselves in out-of-the-way places, in the care and use of Roentgen-ray apparatus and in diagnostic Roentgen-ray work, and who must be familiar with the principles and simpler methods of the subject. The book fulfils its purpose well. It is elementary, but sufficiently comprehensive; and the very fact that it is not overburdened with detail makes it the more useful for the practitioner who wishes to learn enough of his subject to get away from bald rule-of-thumb methods, but who has not the opportunity to became a specialist in roentgenology.

THE NERVOUS AND CHEMICAL REGULATORS OF METABOLISM. Lectures. By D. Noël Paton, M.D., B.Sc., Professor of Physiology in the University of Glasgow. Cloth. Price, $2. net. Pp. 217. New York: Macmillan Company, 1913.

This book contains the substance of lectures by the author on the subjects considered. It is recommended to physicians, medical students and others as giving a clear and concise account of the present state of knowledge of the internal secretions and the organs that produce them, with special attention to the interrelations of these organs and their relationships to the nervous system. The book fills a need for a shorter consideration of these subjects than is given by Biedl's "Innere Sekretion," to which it forms a useful introduction for those who wish to go further. It probably would have been of advantage if the title had expressed more directly the nature of the contents.

# Miscellany

## A Medical Advance in China

Several months ago (Anatomy in the Far East, editorial, THE JOURNAL, Nov. 22, 1913, p. 1904) we referred to the advances in medical science which have been made in American colonies in the Far East as contrasted with China and Japan. This was credited chiefly to the fact that, in the former, dissection of dead bodies is allowed, whereas in the latter mutilation of the dead has been regarded as sacrilegious by most of the people. The Chinese objection to dissection is based on filial piety. The parents having given to the child a whole body it would be disrespectful for him not to keep it whole; it would be an act of disrespect if the children of the dead subject did not aid him in preserving the honor of his parents by seeing that his body was buried whole. There is also a custom demanding that bodies be buried in the ancestral home, and of course it would be an insult to a progenitor to send him as a dissected corpse for burial. There is a change taking place, however. The following is from a recent issue of the *Central China Post* of Hankow:

"While educational and medical bodies in the North have been urging the government to permit the dissection of human corpses by medical students, the new tutuh at Wuchang has actually given his sanction to this practice. Dr. J. MacWillie of the American Church Mission had for some time been urging on the Wuchang authorities the desirability of making dissection legal and had gained General Li Yuan-hung's approval, but not his official sanction. The request was renewed when the new tutuh arrived, and by his action dissection is made permissible by law. It is believed that this is the first occasion of the legalizing of this practice in China."

Concerning this important decision Dr. MacWillie writes:

"The facts are as stated and this ushers in a new era for China, for it will not be long before the other provinces and then the central government take up the matter. I have it on excellent authority that the Province of Education is now getting the best opinion from all the provinces on the subject."

## Two Cases of Leprosy Apparently Cured

Victor G. Heiser, director of public health in the Philippines, in *Public Health Reports*, Jan. 2, 1914, reports the apparent cure of two cases of leprosy with hypodermic injections of chaulmoogra oil and resorcin. These patients were under observation in the San Lazaro Hospital in Manila, and have been discharged after being free from leprosy for a period of two years. They received no vaccine treatment.

One was a girl aged 11 who had large leprous macules over the outer surfaces of both legs, extending from the malleolus almost to the knee, and similar large leprous macules on the forearm. The diagnosis was microscopically confirmed. The administration of chaulmoogra oil was begun in 10-drop doses by mouth three times a day, but nausea developed and the patient refused to take it further. It was then administered hypodermically in a formula composed of chaulmoogra oil, resorcin and camphorated olive-oil in 1 c.c. doses. The injections were repeated at weekly intervals and gradually increased in quantity until they reached 12 c.c. a dose in the course of three months. The dose was then gradually reduced in the same period to 1 c.c. and gradually increased again to the maximum dose. Microscopic examinations made from time to time during the period resulted negatively. A few months after the beginning of the hypodermic treatment the macules became ulcerated and then gradually healed. Treatment was begun in January and the patient was discharged in October.

The other case was that of a Filipino, aged 40. The diagnosis of leprosy was microscopically confirmed. He had a large leprous macule on the outer side of the leg about the malleolus and a similar smaller lesion above the left ear with some infiltration of the lobe of the left ear. The chaulmoogra oil mixture was injected in doses corresponding to those of the

first case and increased to 5 c.c. Efforts to give larger doses caused palpitation and precordial distress. The macules began to improve a few weeks after treatment and entirely disappeared in about four months, when the bacillus could no longer be found. Two years later the patient was discharged. In the meantime frequent examinations revealed no return of the disease.

## Medicolegal

### Power of State Board to Make and Interpret Rules for Granting Licenses—Requiring Practice in Other States for Applicants Therefrom

*(Thomas vs. State Board of Health (W. Va.), 79 S. E. R. 725)*

The Supreme Court of Appeals of West Virginia refused a writ of mandamus to compel the State Board of Health to issue to petitioner Thomas a license to practice medicine in West Virginia. The court says that it deems it a sufficient justification for the board's refusal of a license that, under the reciprocal relation existing between West Virginia and Maryland, a medical licentiate from the latter state is required to reside and practice his profession in Maryland for one year after receiving his license there, before making application for a license in West Virginia, which regulation it appeared that the petitioner had not complied with.

While the board may not have unlimited discretion in the matter of granting or refusing licenses, still, it must necessarily be vested with a wide discretion, especially in the matter of establishing reciprocal relations with other states. Section 9 of Chapter 150 of the Code of 1906, as amended and reenacted by Chapter 66 of the Acts of 1907, clearly gives it power to fix the standard of qualification for practitioners, to examine applicants and to determine what medical colleges are or are not reputable in its judgment. It also has discretion to enter or refuse to enter into reciprocal relations with other states whose standards of qualification are equal to those of West Virginia, or to admit licentiates of those states to practice in West Virginia without examination.

A rule or regulation which requires a foreign medical licentiate to reside and practice in the state which licensed him for one year before making application for a license in West Virginia is reasonable, and his failure to comply with it will justify the State Board of Health in West Virginia in refusing him a license. The year's practice in the foreign state must be in compliance with the law. The petitioner admitted that his Maryland license was not delivered to the recording court in Baltimore, where he claimed to have resided and practiced, until seven or eight months before he made application for a license in West Virginia. If he did, in fact, practice his profession in Maryland prior to filing his license for record, it was unlawful, and could not avail him anything, as under the statutes of Maryland his license was inoperative until it was filed for record.

The interpretation given by the board to a rule or regulation adopted by it will be followed by the court, unless it appears to be clearly unreasonable and arbitrary.

### Admissible Evidence in Prosecution for Failure to Report Suspected Case of Diphtheria

*(State vs. Pierce, (Vt.), 88 Atl. R. 740)*

The Supreme Court of Vermont overrules exceptions to a conviction of the respondent, as it calls him, under the statute of that state which requires an attending physician to report to the health officer known or suspected cases of communicable diseases dangerous to the public health. The illness directly involved was that of an infant who was attended by the respondent on several occasions between Jan. 3 and 8, 1911, and who died January 9, from diphtheria, as the evidence showed.

From the very necessities of the case, the state was obliged to rely on circumstantial evidence to prove that the respondent knew or suspected that the case was one of diphtheria. It was therefore proper and legitimate to show that other cases of that disease had existed in the same village in the previous months of October and November, that the houses wherein these cases existed were quarantined, with a placard placed thereon bearing in large letters the word "Diphtheria," provided, of course, that the evidence tended to show that the respondent knew about it, or that the circumstances were such that the jury could reasonably infer that he knew about it. His knowledge of these facts was not the ultimate fact to be proved, but, if established, bore directly on what his subsequent knowledge or suspicion would be when called to treat the patient in question. The evidence abundantly showed that the respondent was in the village at the time, and in such circumstances as to make it almost unbelievable that he failed to observe the diphtheria placards. Whether he did in fact see them was a question for the jury. But the fact that positive evidence thereof was not at hand did not render this other evidence inadmissible.

It appeared that a sister of the patient involved was sick at the house of a neighbor, and died there Nov. 8, 1910. After her burial, and before the sickness of respondent's patient, by direction of the state authorities, November 19, two physicians caused her body to be exhumed, and in the presence of the respondent performed a necropsy thereon and showed the respondent the condition of her throat. The organs removed were shown to a witness for the state, a member of the State Board of Health, who testified that the larynx showed a diphtheritic membrane. The witness was then asked, "Would that (diphtheritic membrane) be apparent to an ordinary practicing physician?" He answered that he thought it would. The court finds the admission of the testimony to be without error.

The court said there was no doubt whatever that the witness could state what the appearance of the larynx indicated to him. The only question on which there could be any doubt was whether it was permissible to allow the expert to state that the indications of a diphtheritic condition were so plain as to be apparent to an ordinary practitioner. That the answer was an inference might be admitted without putting the trial court in error. Inferences from observed facts are admissible when the inferred fact itself is relevant and the constituent facts cannot adequately be placed before the jury.

Here the fact itself was relevant, because, if this larynx on November 19 indicated that the sister had had diphtheria, it rendered more probable the ultimate fact that in January following the respondent knew or suspected that the patient had it. That the constituent facts could not adequately be placed before the jury is equally plain. The ground taken by the respondent was that the statement of the witness could not be true, because he spoke as a surgeon, while the respondent was a physician, and a physician could not be expected to recognize post-mortem conditions and indications. How much more, then, would the jury, wholly untrained in such matters, require the assistance of an expert to appreciate the significance of the physical appearance of this diseased larynx.

In sustaining the admission of this evidence, the court was doing no more than is always done in a malpractice case, wherein a duly qualified physician is allowed to testify to the local standard of professional skill, and that a given course of treatment did or did not meet its requirement, though the witness be of more professional prominence than the physician whose treatment is in question and who practices elsewhere. In such cases the expert is giving the jury information as to the progress and condition of local knowledge.

Nor was there error in admitting reports from the state laboratory on cultures from the throat of another person. These were taken by the respondent between Nov. 14 and 26, 1910, and sent by him, and the reports came back to him. Some, he admitted, were positive. They had the same bearing on the main issue as the other evidence regarding the previous cases of diphtheria—they added to the sum of the respondent's knowledge another circumstance which a thoughtful juror would consider before deciding the main question.

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# Society Proceedings

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, ATLANTIC CITY, JUNE 22-26.

Missouri Valley Medical Society, Lincoln, Neb., Mar. 26-27.

## CONFERENCE OF THE AMERICAN MEDICAL ASSOCIATION ON MEDICAL LEGISLATION

*Held in Chicago, Feb. 23, 1914*

The Tenth Annual Conference on Medical Legislation, under the auspices of the Council on Health and Public Instruction, was held Tuesday, February 23, at the Congress Hotel, Chicago, with the Chairman, DR. HENRY B. FAVILL, Chicago, in the chair.

### Our State Boards of Health

DR. HENRY B. FAVILL, Chicago: It needs no argument on my part to show you that the state boards of health are the great public health functions of this country. To find out what our state boards of health are, how they are equipped, how they are financed, and how they are backed with reference to helping us so far as we may create a public health service throughout the various states which shall have not only efficiency in its individual units, but also solidarity to as high an extent as possible has been the keynote of the Council's work this year, but by no means its sole work. I call your attention to it for the purpose of getting your views, either expressed or tacit, somewhat crystallized as to the merits of the enterprise in which we are engaged.

### Report of the Secretary

DR. FREDERICK R. GREEN, Chicago: The work of the Council on Health and Public Instruction has now reached the point at which a comprehensive program can be outlined, embracing all the activities of the Council and the public health functions of the Association, so as to show the relation of the different activities of the Association to each other, as well as to develop a definite program which can be followed. This plan, which was presented to the Council at its November meeting and approved, includes the following:

1. A survey of existing conditions in public health activities in the United States, with a view to ascertaining the exact conditions which now exist, in order that intelligent plans for their improvement may be made. This survey is to be fourfold, covering the following fields:

*A.* The public health activity of the federal government in its various departments, including a summary of the public health organizations of other national governments as a basis of comparison. Plans are now on foot for the appointment of a recognized public health authority of high grade, whose report will be generally accepted as authoritative, to act as a special representative of the Council of the Association to visit the leading European nations and to make a careful study of the public health activities of our own government, with a view to preparing a report which can be made the basis of recommendations and activity for federal public health legislation in this country.

*B.* A survey of state public health organizations and activities. This work has already been inaugurated.

*C.* A similar survey of those municipal departments of health of sufficient importance to justify it. This is being planned, and a report will be prepared as soon as possible covering this field.

*D.* A survey of voluntary organizations interested in and working on public health problems, such a survey to be carried on through the central Committee on National Health Organizations. This committee was appointed at the New York conference held in April last. The conference was called by the Council and was attended by representatives of thirty-nine out of fifty organizations invited to participate. As a result of the conference a central committee of fifteen was appointed. This committee has undertaken a survey of existing public health organizations, with a view to determining the number of such organizations, their membership, equipment, facilities, work, sources of income, etc., as well as the possibility and the amount of overlapping in duplication.

As a result of this fourfold investigation the Council hopes to present to the public, during the coming year, a complete report showing the amount of work being done in the public health field by federal, state, municipal and voluntary organizations, what is actually being accomplished, what this work is costing and who is paying the bills.

The second line of activity of the Council includes the stimulation and development of public opinion in favor of improved public health conditions. This work is being carried on through the *Press Bulletin*, the lecture bureau, the distribution of pamphlets, and other educational activities of the Council. It includes also the organization of a medicolegal bureau for the study of the legislative side of public health work and the development of model laws on public health topics.

The situation regarding national health legislation remains unchanged. [In this connection the secretary quoted from the report of the Council at the Minneapolis session.]

### Second Tentative Report of Committee on Expert Testimony

The report of this committee was presented by Professor Keady of the Northwestern University Law School, Chicago, who said:

During the past few years many proposals for the regulation of expert testimony have been advanced by organizations representing the different learned professions involved. It is now proposed to discuss these different proposals from the legal point of view.

1. That the court be given power to appoint disinterested witnesses. This proposal has appeared in two forms, namely, (*a*) that such witnesses should be the only expert witnesses allowed to testify, and (*b*) that the appointment of these witnesses by the court shall not affect the right of both parties to call expert witnesses. The first form of the proposal would seem to be clearly unconstitutional as restricting the parties in the proof of their case. The recent decision of the Supreme Court of Michigan holding unconstitutional as violating the provision against due process of law, a statute which provided that "in criminal cases for homicide where the issues involve expert knowledge or opinion, the court shall appoint one or more suitable disinterested parties, not exceeding three, to investigate such issues and testify at the trial, this provision not to preclude either prosecution or defense from using other expert witnesses at the trial," has seemed to offer a serious obstacle to the adoption of this proposal. The adherents of this proposal need not be discouraged, however, as certain objections which the Michigan court found in their statutes can be remedied without affecting the general plans, and the courts of most of the other states are likely to be more liberal in their interpretation of the constitution than was the Michigan court. If this proposal should be considered advisable, it is reasonably certain that the constitutional difficulties may be solved.

2. That a fixed group of experts shall be appointed or otherwise determined from which all expert witnesses must be chosen. Although this might be feasible in certain lines of professional activity, it would be impracticable in others. There is a great diversity of opinion regarding the advisability of this proposal. One of the legal difficulties is that the law, in prescribing the qualifications for experts, has not required any professional connection with the subject, the test being, Does the witness have the special knowledge and the experience required? A statute providing for the selection of such a group would probably be held constitutional.

3. That expert witnesses be permitted to make a physical and mental examination of the person regarding whom they are to testify. The difficulty of this proposal, when the question involved is the mental condition of the defendant in a criminal case, has already been discussed. In all other cases it would seem practicable.

4. That the expert witness shall submit his testimony in the form of a written report. This plan is possible only when

the testimony of the witness is as to facts and opinion based on such facts. When his testimony is purely opinion based on facts testified to by others, there is no opportunity for the preparation of such a report.

5. That the expert witnesses shall consult and agree on a joint report—the so-called "Leeds" method. There is no legal objection to this plan. A too partisan lawyer might object to having his witness consult with the witness for the other side, and the witnesses themselves might have difficulty in agreeing. These considerations are, however, of a purely practical character. When experts are appointed by the court a consultation and agreement by such experts would be highly desirable, if not essential.

6. That the number of expert witnesses which each side may call shall be limited. This is possible when the witnesses are to give purely opinion evidence, but not when they testify as to facts. This difference is due to the distinctive character of these two kinds of testimony as set forth in the beginning of this report.

7. That commissions of experts be appointed for the determination of technical matters and that such matters shall not be submitted to the jury. For instance, it has been strongly advocated that in criminal cases in which insanity is set up as a defense, the jury should find only whether the defendant did the wrongful act, and that a commission of alienists shall determine the responsibility of the defendant. In this proposal the true function of the medical expert is lost sight of. Criminal responsibility is a legal question which should be answered by the jury under proper instructions from the court. The function of the expert is to testify as to the mental condition of the accused. A constitutional question is raised every time it is proposed to restrict the functions of the jury in criminal cases.

The committee realizes that the success of any plan regulating the introduction of expert testimony depends on the skill and cooperation of judge, witness and lawyer. It is impossible to frame any proposal that will accomplish good results without these. The present tendency in the legal profession is toward a less antagonistic attitude in the trial of a case, namely, the administration of justice is not being regarded quite so much as a sporting proposition. Likewise the courts are becoming more liberal in upholding the constitutionality of reformative measures. Thus there is hope for the adoption and successful operation of a truly meritorious proposal. This committee hopes to be able to submit such a proposal in the form of a bill at the next meeting of this conference.

### Report of the Committee on Public Health Among Women

DR. LENNA L. MEANES, Des Moines, Iowa, Chairman, presented the report of the Committee on Public Health Among Women.

### Report of Committees on Resuscitation from Electric Shock and Resuscitation from Mine Gases

DR. WALTER B. CANNON, Boston, Chairman: Electric shock kills in two different ways: Voltages in the neighborhood of 2,000 will thoroughly paralyze the nervous mechanism of respiration and voltages in the neighborhood of 600 or 800 send the heart into fibrillary contraction. It is impossible at present to resuscitate the fibrillating heart; it is possible, however, to maintain artificial respiration until the normal mechanism of respiration is taken up again after an electric shock. The processes of maintaining artificial respiration are two: manual methods and artificial methods.

About two years ago the National Electric Light Association appealed to the American Medical Association for help in determining the best methods of maintaining artificial respiration, and through the agency of this Council certain members of the American Medical Association were appointed to work in cooperation with members from the National Electric Light Association and members of the Association of Electrical Engineers. This commission investigated very carefully and critically the manual methods of maintaining artificial respiration and also the mechanical devices which have been on the market and have been exploited in the newspapers, notably the pulmotor. As a result of this investigation the committee came out in favor of modifying and supporting the manual method of maintaining artificial respiration, and the committee described this modified method in a chart which can be hung up in power-houses, and in a booklet which can be carried by linesmen as they go on their work. Examination of the mechanical devices leads to the conclusion that they are defective in two different ways: first, mechanically they would not operate under certain conditions; furthermore, they were unphysiologic in that they produced respiration artificially by withdrawing the air from the lungs, and were likely to do injury to the lungs. As a result of the investigation, a subcommittee of the commission went to work and devised another method of producing artificial respiration by mechanical means, which Dr. Meltzer has published in THE JOURNAL. While this commission was at work, Dr. Holmes, head of the Bureau of Mines of the United States government, learned of this work and asked that the medical members of the commission be continued in the services of the government, and we investigated conditions in mines in different parts of Pennsylvania and learned the nature of the devices for artificial respiration by a study of the actual conditions on the spot. In mines there is danger not only from electric currents sent into mines, but also from the mine gases, and it is especially desirable that persons overcome by mine gases be supplied with an abundance of oxygen during the period of resuscitation. It was found that the artificial devices which the committee had investigated and had described could be used in connection with oxygen, and this would be immediately applied to the needs which the government had presented. The results of these investigations have been sent in as reports of the National Electric Light Association to the Bureau of Mines and also the American Medical Association.

### Report of Committee on Conservation of Vision

DR. FRANK ALLPORT, Chicago, Chairman: Maryland, Ohio, Pennsylvania, Illinois, etc., are doing excellent work, but at present there has been nothing of an active character done in the way of national work with regard to the conservation of vision, and this committee was formed with the hope of starting something of a national character with regard to the matter. At the suggestion of Dr. Green, the first thing the committee did was to cooperate with the *Press Bulletin* of the American Medical Association. It seemed to be the duty of the committee to furnish each week something for the *Press Bulletin* concerning the conservation of vision. The next thing the committee undertook was the publication of some pamphlets on the conservation of vision. They deal with subjects that are practical in their nature, such as wearing glasses, the examination of the eyes of schoolchildren, and industrial and household accidents. Large charts for use in the schools for the inspection of the eyes, ears, noses and throats of children have also been prepared.

### Report of Committee on Cooperation with the National Educational Association

DR. JOHN M. DODSON, Chicago: It was felt that the first thing that should be done was to collect evidence with regard to the presence of a satisfactory condition of the rural schools in many parts of the United States. With a small appropriation made by the National Educational Association, and an equal appropriation by the Council on Health and Public Instruction, a beginning was made and an investigation undertaken as to the situation in certain parts of the country. The National Educational Association Committee offered prizes to the various county schools or counties in the several states for the best showing of the sanitary condition of the schools, such prizes to consist of some materials which would be valuable and interesting in the schools, such as moving-picture apparatus, illustrated material, or something of that nature, not of great intrinsic value, but something useful which would appeal to the county school authorities. I have little doubt that this plan will be adopted by the meeting in Richmond which is being held this week. In that connection another

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suggestion has been made which I think is a good one, that some time during the coming year addresses in reference to the sanitation of rural school be made in every county in the United States, and if that is done the committee will want to utilize the assistance of the members of the medical profession through the Council on Health and Public Instruction. Such a campaign of education would be tremendously far-reaching.

### Report of Committee on Protection of Scientific Research

DR. WALTER B. CANNON, Boston, Chairman: The agitation against animal experimentation is one which has thus far manifested itself on the Atlantic coast, and chiefly in centers on the coast, such as Boston, New York, Philadelphia, Baltimore and Washington. The agitation began in New York, but did not reach a very virulent stage there, and it reappeared later in Massachusetts. The activity at first was very great.

The method of meeting the attacks of the antivivisectionists was developed largely through the cooperation of Henry P. Bowditch and Harold Ernst. The method consisted of bringing before the committee representatives of every medical interest that might be interfered with by the legislation which was proposed.

At present agitation against animal experimentation has so signally failed to bring about results in legislation that the agitators are now saying that human vivisection is practiced in hospitals and are trying to arouse sentiment on that basis.

### Report of the Committee on Railway Sanitation

DR. H. M. BRACKEN, St. Paul, presented the report of the Committee on Railway Sanitation, outlining the work that had been accomplished.

### Sex Education and the Preventive Medicine Campaign Against Venereal Diseases

DR. W. F. SNOW, General Secretary of the American Social Hygiene Association, New York: The fight against venereal diseases is designated as a special problem in the combating of contact diseases, and the term "sex-borne" is used to indicate this.

Several lines of activity seem to have been sufficiently tested to warrant endorsement: 1. Efforts to obtain the cooperation of physicians in reporting venereal diseases, and utilizing their opportunity as advisers in their family practice, and advocating publicly a single standard of morals. 2. The encouragement of diagnostic and advisory work like that which has been so successfully done by the New York Health Department and the Oregon State Board of Health. 3. Scientific constructive educational lectures which have been conducted by social hygiene societies for selected groups of shop-workers, department-store girls and other similar groups. 4. The development of serious consideration of the problem by associations of parents and teachers under the coordinated guidance of medical and moral professional auspices. 5. The promotion of suppression and gradual eradication of all the agencies favoring sex-immorality and contributory low standards of morals. 6. Constructive efforts to give in normal schools and universities definite information on the sex problem as it will be met by teachers in the course of their school work.

### Wisconsin's Experiment in Marriage Legislation

DR. C. A. HARPER, Secretary State Board of Health, Madison, Wis.: The law went into effect Jan. 1, 1914.

During the first week in January, 1914, there were practically no marriages solemnized. During the month of January, 1914, however, there were 1,202 marriages in Wisconsin. During the month of January, 1913, there were 1,411 marriages in the state, showing a falling off of marriages between the two months compared of 209.

If the action of the legislature reflects public opinion, and in Wisconsin we believe that it does, then the public is strongly in favor of a provision similar to this, as the vote of the members of the legislature was almost unanimous in favor of the measure. Also very little dissension or unfavorable opinion on this law is heard from the general public, the controversy, as before stated, originating almost entirely on the part of physicians. Neither do the male applicants for marriage materially object to the provisions required, but on the contrary, my personal experience has been that all such applicants are strongly in accord with the provisions of the law. Whether the law will stand the test of the Supreme Court or not cannot be foreseen. One of the great benefits to be derived from any law is in the education of the public. That the controversy concerning this law has awakened a great interest and set the people of our state thinking cannot be questioned. The good effects, therefore, whether the law is to remain on the statute books or not, will be extremely beneficial and far-reaching, not only in Wisconsin but also in adjoining states, which have become interested in the experiment.

### What Should Be the Relation of the Medical Profession to the Secular Press?

DR. J. W. PETTIT, Ottawa, Ill.: The press is the most powerful means of influencing public opinion in the beneficent lines so much desired by all medical men — the teaching of hygiene, public health, sanitation, preventive medicine and other subjects of general interest and benefit. From my investigations, I am satisfied that the press would welcome cooperation in professional matters.

The stand taken by THE JOURNAL is not only an inspiration but also an incentive to publications of all kinds to follow its example. By a strict censorship of its columns it has given the medical profession as much confidence in its advertisements as it has in its editorial columns, with vastly more profit to THE JOURNAL itself.

Merchants are bringing pressure to bear on newspapers to discontinue the publication of advertisements of medical quacks and charlatans in the belief that the legitimate advertiser suffers by having his advertisement printed in the same newspaper with that of quack doctors. We also need the aid of the press in bringing about reforms in the medical profession. The very effective way in which it is cleaning out the quacks is an illustration of what the press can do. We need its assistance in medical legislation, to assist in the better administration of laws already on the statute-books, and in exposing the methods of diploma-mills and other medical frauds, which are even a greater menace to the public than the quacks who have thus far been exposed. One of the most remarkable evidences of the increasing influence of medicine is that a medical side to all things is making its appearance, and that it is being recognized that medicine is essentially one of the branches of human learning that requires the cooperation of humanity in its development.

### The Charge of Human Vivisection as Presented in Antivivisection Literature

This paper by DR. RICHARD M. PEARCE, Philadelphia, appears in full in this issue, p. 659.

### Public Education a Duty of the American Medical Association

DR. JOHN A. WITHERSPOON, Nashville, Tenn.: The Council on Health and Public Instruction has accomplished such wonderful results in so short a time that it has laid the foundation for the development of a work which has been a revelation to me. What has been said here to-day about the lay press is very true, for the various articles are intended for publication in the newspapers of the country. Few anticipated it at first, but it certainly appears that the lay press and the medical profession are getting together rapidly. We find that every week 5,000 newspapers in this country are receiving articles that are properly prepared along the lines of prevention of disease.

The more we study the work that has been done, and the more we look into the sacrifices that have been made by the members of our profession in regard to all problems affecting the health and welfare of the American people, the more we see the grand work of the American Medical Association. This association has shown great wisdom in the selection of such a chairman and secretary as we have on the Council of Health and Public Instruction.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK

*Meeting held Jan. 20, 1914*

The President, DR. T. PASSMORE BERENS, in the Chair

### The Medical Society of the County of New York

DR. T. PASSMORE BERENS: Nov. 14, 1914, will be the one-hundred and twentieth birthday of this society. In 1806 its membership was 371, and every doctor in the city was a member of the society in virtue of his right to practice medicine. To-day our membership is 2,429; and we are the largest medical society on the continent, and each applicant must prove his fitness for becoming a member. There are still 2,700 physicians eligible to election who would give strength to our cause. The aims and objects of the society are well known; they have been the same through many years of its existence, and consist in the protection of the health of the community, the elevation of the standard of the profession, and the elimination of the quack and the charlatan. I would make the tentative suggestion that the clinical material in our hospitals be made available to all members of this society. The question which is more perplexing than any other is the determination of certain principles of ethics, violations of which are brought before us continually, particularly the growing tendency to instruct the public through the lay press, and incidentally to bring into prominence the personality and practices of individual physicians. The Comitia Minora, through Dr. Sondern, has been directed to bring this matter before the society. If we are wrong in considering the newspaper articles which he will mention as offensive against the best interests of the profession, we should remodel our ideas relative to the standard of ethics; if we are right, it is to be hoped that this method of calling the attention of those who have offended will work the improvement desired by all.

### Publicity in the Lay Press by Members of the Society

DR. FREDERICK E. SONDERN: Articles appear in the daily newspapers, particularly in the Sunday editions, in the weekly illustrated papers and in the monthly magazines, some written by the physician himself and others by a lay author whose name is mentioned, but in the majority of instances it is difficult to decide if the article is written by the physician or by someone else. Some have no illustrations, the majority have the physician's picture, and some are profusely illustrated, showing the physician at work in office, laboratory, clinic or hospital. Examination of a large number of these publications shows that they can be divided into several groups.

1. Those designed for the publicity of an institution, calling attention to the achievements therein and the advantages it enjoys. 2. Those concerning modes of treatment, and while the primary object seems to be to satisfy the public desire for information on a cure for human ills, again there is unfortunate prominence given to one or more physicians whose pictures usually appear in the article and whose personal success with the remedy in question is exploited. 3. Those concerning one man; detailing his origin, his education, his opportunities, his achievements and his success. Books are written by physicians containing advice on matters of hygiene, sex talks and a host of other subjects intended to improve the public health, and these are sold or distributed gratuitously. Again, there are many instances in which philanthropy is but a cloak for personal aggrandizement. Many of the lectures delivered by physicians to lay audiences belong under the same head.

The public demands information on the progress in medical science; it has a right to do so, and the lay press will soon voice a protest, if under the guise of preventing the publication of articles by prominent physicians, an attempt is made to prevent the demanded publicity of medical matters. This information should go to the public, but what is printed should be the substantiated truth and not the possibly immature ideas of an enthusiast, who may awaken false hope and by the unsuccessful outcome of his efforts, lower the confidence of the public in the profession.

Therefore, on behalf of the Comitia Minora I am directed to move the adoption of the following resolution:

WHEREAS, The Medical Society of the County of New York fully appreciates the desire of the public for information on medical and surgical advances, and at the same time the need for the maintenance of the best traditions of the profession; be it

*Resolved*, That the society requests its members when giving information to the lay press, to do so in an impersonal manner; be it further

*Resolved*, That the society expects its members to conform strictly with the well-known principles of medical ethics.

*(To be continued)*

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## NEW YORK NEUROLOGICAL SOCIETY

*Meeting held Jan. 6, 1914*

The President, DR. SMITH ELY JELLIFFE, in the Chair

### Intensive Treatment of Syphilis of the Nervous System by Neosalvarsan and Mercury

DR. FREDERICK PETERSON and DR. J. W. STEPHENSON: The method adopted was as follows: Every third day for five injections, 0.45 gm. of neosalvarsan was administered intravenously. In cases of paresis, taboparesis and other actively severe infections, this was supplemented by inunctions of mercury (from 40 to 60 grains) on the days the patient did not receive the neosalvarsan. The majority of unfortunate sequelæ of neosalvarsan are attributable to faulty preparation or administration of the drug. Seventy-five c.c. make too concentrated a solution of 0.45 gm., and from 90 to 100 c.c. were invariably used. Freshly distilled water was boiled at least five minutes and then cooled to room temperature by running water. The apparatus used was the ordinary gravity one and the method of administration was as follows: Thirty c.c. of lukewarm, previously sterilized, normal saline solution were introduced, and as this escaped from the container, the neosalvarsan was poured in, and as the last portion left the container, 30 c.c. of lukewarm normal saline was again introduced. Special care was taken that as small an amount as possible of the neosalvarsan solution came in contact with the warm saline, lest the warmth of the latter increase the toxicity of the drug.

In the fifteen cases covered by this report, three were cases of general paresis, four were cases of taboparesis, six were cases of tabes, one was a case of cerebrospinal lues, and one was a case of meningitis, with gumma. One of the cases developed a severe arsenical dermatitis and resulted fatally. The other cases were uneventful. The immediate effect, or so-called reactions following the first series of injections, were as follows: It was the usual course with tabetics that the pains were much worse from twenty-four to thirty-six hours after the first injection. After the second injection there was sometimes slight exaggeration; after the third, usually none. In a very small number of cases a chill and slight temperature elevation followed only the first injection. There was no case of diarrhea. In a large majority of cases a slight conjunctival icterus appeared after the third injection, but this was of brief duration. In those cases supplemented by mercury the patient usually expressed himself as feeling very weak after the fourth injection, which was apparently attributable to the mercury. In paresis the mental condition was usually more pronounced following the first injection, but was not so affected by subsequent ones.

The illness in the fifteen cases was such that thirteen patients could not pursue their usual vocation prior to the treatment. Among the thirteen, the improvement following the first series of injections was such that eight returned to their work within from six weeks to two months. Four showed slight improvement; two were considerably improved; one died.

The serologic examinations were made from three to twenty-seven days following the last injection. Of the fifteen cases, the Wassermann was positive in the serum only in two cases. One of these remained positive; the other was rendered negative. The Wassermann was positive in the spinal fluid only in two cases. Both of these were rendered negative. The Was-

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sermann was positive in the serum and spinal fluid in eleven cases. One of these was not subsequently examined. Of the remaining ten, six were rendered negative, one weakly positive and three remained unaffected. Of these four, after the second series of injections, the weakly positive became negative and of the three unaffected cases one became negative and one remained positive, while in the remaining case no second test could be made. Pleocytosis was present in thirteen cases and there was a considerable reduction in all cases, with one exception. In twelve the protein test showed an excess of globulin, which was slight in one. Of these twelve cases, nine were rendered negative, and in three there was a slight excess. The one showing a slight excess was rendered negative.

DISCUSSION

DR. J. RAMSAY HUNT: Ehrlich has lately recommended a course of treatment with salvarsan, and then after a brief intermission, a course of treatment with mercury; or the mercury may precede treatment with salvarsan. Wechselmann has attributed a certain number of deaths from salvarsan intoxication to the preliminary use of mercury. He asserts that the mercury produces a mild form of nephritis or renal disturbance, so that when the salvarsan is given, the kidneys are incapable of eliminating the arsenic, and a second injection under such conditions may result in serious symptoms of intoxication. The kidneys are an important factor in elimination, and during such a course of treatment as this the renal secretion should be examined frequently, preferably daily, and at the slightest indication of disturbance, further medication should be postponed and every precaution should be taken to guard against untoward results.

I have seen two cases of very severe intoxication from salvarsan, both following the second injection. In both instances, slightly less than the usual dose was employed, and the full interval of one week was allowed to elapse after the first injection. In one of the cases a severe myelitis developed, and in the other there was a general intoxication, with jaundice. Both cases were most severe.

DR. W. LESZYNSKY: It is an open question whether the serologic reactions are changed by the mercury or by the salvarsan. I should be inclined to depend on the action of the former, which is safer than salvarsan. In a number of cases I have used potassium iodid in increasing doses, coincident with injections of neosalvarsan, without untoward results.

DR. A. ABRAHAMSON: I do not believe that the result of an examination of the cerebrospinal fluid indicates definitely the degree of the infection. I have seen serious paretic and tabetic cases with mild serologic findings, while patients with very slight symptoms often give very positive blood and cerebrospinal findings. The important factors are the symptoms presented by the patient. They deserve more consideration than a negative or positive Wassermann in the blood or fluid.

DR. H. GOLDENBERG: Wechselmann at first attributed the fatalities to the so-called *Wasserfehler*, and now he thinks that these are due to the mercury which has been combined with the salvarsan. From the beginning of the salvarsan era, I have combined the salvarsan with mercury injections. I have had two deaths which were not due to the mercury or to the combination of the mercury and salvarsan, but purely to the salvarsan.

The so-called Herxheimer reaction, following immediately, sometimes while the patient is still on the table, or subsequently, the symptoms consisting of flushing of the face, watery eyes, intense headache, swelling of the mucous membranes of the mouth, abdominal cramps, etc., has recently been explained by Milian, a French writer, as being due to a dilatation of the blood-vessels caused by the arsenic. In a number of cases in which he had previously observed this complex of symptoms he was able to prevent them after subsequent injections by the previous intramuscular administration of epinephrin.

### Neural Atrophy of the Small Muscles of the Hand, Without Sensory Disturbances

DR. J. RAMSAY HUNT: One of the chief points of clinical interest of the two types of neural atrophy of the small muscles of the hand without sensory disturbances (*a*) a hypothenar type, from compression neuritis of the deep palmar branch of the ulnar nerve and (*b*) a thenar type, from compression neuritis of the thenar branch of the median nerve, is in their resemblance to and possible confusion with the atrophy of the hand-muscles of spinal-cord origin, namely, the Aran-Duchenne type of progressive muscular atrophy, the early stage of amyotrophic lateral sclerosis beginning in the hand musculature, and the various types of subacute and chronic poliomyelitis of syphilitic origin in which the lesions originated in, or were more or less restricted to the lower segments of the cervical cord. Of special importance is the so-called tephromalacia anterior, described by Marie and Foix, in which the atrophy of the anterior horns, limited to the eighth cervical and adjacent portion of the seventh cervical and first dorsal segments of the cord is produced by a vascular lesion of syphilitic origin (endarteritis and periateritis without thrombosis). The hypothenar type of neural atrophy is characterized by a complete paralysis, with consecutive atrophy and reactions of degeneration in all the muscles of the hand supplied by the ulnar nerve (the hypothenar, interossei, adductor pollicis and inner head of the flexor brevis pollicis). There are no objective or subjective disturbances of sensation in the distribution of the ulnar nerve. The ulnar flexion of the wrist is preserved, as is also the function of the palmaris brevis. The motor branch to this small subcutaneous muscle passes in the superficial palmar, which is sensory; the deep palmar is partly motor in function. The preservation of this small motor branch to the palmaris brevis and of the sensory functions shows that the compression lesion is situated in the deep volar branch, after the division of the nerve at the level of the pisiform bone. Just after this division the deep palmar branch passes between the tendinous origins of the abductor minimi digiti and the flexor brevis minimi digiti, to beneath the hook of the unciform bone. The compression neuritis, therefore, by a process of exclusion, must take place in this section of the deep palmar branch.

The thenar type of neural atrophy without disturbance of sensibility is characterized by paralysis and reactions of degeneration, with atrophy of all the small muscles of the thenar eminence supplied by the median nerve. There are no subjective or objective sensory disturbances in the distribution of this nerve. The compression lesion in this type takes place beneath the anterior annular ligament, where the thenar branch, a purely motor nerve, emerges, before dividing into the muscular branches to the abductor pollicis, the opponens pollicis and the outer head of the flexor brevis pollicis.

DISCUSSION

DR. A. ABRAHAMSON: Several years ago I showed two cases of bilateral symmetrical atrophy of the flexor brevis pollicis at one of the meetings of this society. I saw one of those patients recently, and there has been no change in the condition.

DR. W. S. GOODHART: It is rather difficult to conceive how a lesion restricted to the seventh or eighth dorsal segment of the cord could produce such a selective action on certain muscles of the hand. Stewart and others recently reported cases in which an atrophy and paralysis of certain muscles of the hand were traced to the presence of a cervical rib. In one of my cases double cervical ribs were present. The initial symptoms were atrophy of the interossei, and the diagnosis of progressive muscular atrophy had been made previously. Removal of both ribs arrested the progress.

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**The Pancreas.**—According to Galen, an anatomical controversy arose over the pancreas between Herophilus and Eudemus (fourth century B. C.), the latter of whom stated that a fluid emptied out of the pancreas into the bowels and aided in digestion; yet this interesting fact was entirely forgotten under the influence of the humoral pathology of Galen (second century A. D.) who followed the teaching of Aristotle, that the pancreas acted as a cushion or buffer for the stomach and the neighboring vessels. . . . In 1663 Regner de Graaf published a work on nature and use of pancreatic juice; he was also the first to describe pancreatic calculi.—Deaver and Ashhurst: Surgery of the Upper Abdomen.

# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### American Journal of Insanity, Baltimore

*January, LXX, No. 3, pp. 551-764*

1 Insanity, Other than Paralysis, in Locomotor Ataxia. C. W. Burr, Philadelphia.
2 Horace on Minor Psychoses. C. L. Dana, New York.
3 Mendelism and Neuropathic Heredity. A. J. Rosanoff, Kings Park, L. I.
4 Physical and Mental States in Chronic Chorea. N. J. Dynan, Washington, D. C.
5 Precipitating Mental Causes in Dementia Praecox. A. Hoch, New York.
6 Psychoneuroses from Standpoint of Psychiatrist. E. L. Hanes, Rochester, N. Y.
7 Dementia Praecox. E. E. Mayer, Pittsburg'h.
8 Recent Trends in Psychopathology of Dementia Praecox. I. H. Coriat, Boston.
9 Proposed Changes in Criminal Law. C. H. North, New York.
10 Miliary Plaques in Senile Brains. W. J. Tiffany, Binghamton, N. Y.
11 Diagnosis of Higher Grades of Mental Defect. W. E. Fernald, Waverly, Mass.

### American Journal of Medical Sciences, Philadelphia

*February, CXLVII, No. 2, pp. 157-312*

12 *Tuberculosis of Breast. J. B. Deaver, Philadelphia.
13 Dental Sepsis: Relation to System. C. N. B. Camac, New York.
14 Pneumonic Hemiplegias: Report of Cases. C. F. Withington, Boston.
15 Splenectomy for Splenomegaly (Gaucher Type): Report of Two Cases. J. F. Erdman and J. J. Moorhead, New York.
16 *Supposed Relation Between Paralysis Agitans and Insufficiency of Parathyroids. I. Greenwald, New York.
17 *Some Angioneural Arthroses (Periarthroses, Pararthroses) Commonly Mistaken for Gout or Rheumatism. S. Solis-Cohen, Philadelphia.
18 Leukoplakia of Pelvis of Kidney and Its Diagnosis. E. Beer, New York.
19 *Inhibitory Action of Certain Anilin Dyes on Bacterial Development. C. E. Simon, Baltimore, and M. A. Wood, Galveston, Texas.
20 Typhlo-Albuminuria. H. Stern, New York.
21 Metabolism, Prevention and Successful Treatment of Rheumatoid Arthritis: Second Contribution. R. Pemberton, Philadelphia.

**12. Tuberculosis of Breast.**—With the few exceptions of direct inoculation of the breast, through abraded surfaces of the nipples and skin and possibly through the milk ducts, Deaver says, all mammary tuberculosis is most likely a secondary manifestation of the disease. Most of the primary cases are so considered because the original focus is undemonstrable. In the great majority of cases the bacilli reach the breast through lymph channels, probably by retrograde embolic processes. The most important primary foci are located in the axillary, cervical and retrosternal lymph-nodes, and the adjacent ribs, sternum, pleurae and lungs. The tubercle bacillus may perhaps reach the breast through lymphatic channels in the absence of lymph-node involvement. Deaver advises that every person with tuberculous mastitis should be looked on as harboring the disease after the removal of the involved breast, and should, therefore, be kept under strict regimen lest the disease remanifest itself.

When the disease is limited to the upper outer quadrant of the breast and associated with enlarged nodes of the anterior pectoral subgroup of the auxillary chain, in certain cases with a palpable band of neoformation joining the two foci, it is impossible to determine the primary area of disease. The breast in these instances is probably secondarily involved. Invasion of the breast from a primary osteitis of the sternum is exceedingly rare.

**16. Paralysis Agitans and Parathyroids.**—If the symptoms of paralysis agitans are due to parathyroid insufficiency, Greenwald says we may expect to find that the amount of acid-soluble phosphorus in the blood-serum of such patients is greater than in that of other individuals. As is evident from his work, this is not the case. His results, therefore, do not support that view that parathyroid insufficiency plays a rôle in the etiology of paralysis agitans.

**17. Angioneural Arthroses.**—To mistake the condition for gout, rheumatism, muscular rheumatism, myalgia, neuralgia, neuritis, etc., Cohen says, is common. In afebrile cases the chief elements in diagnosis are the recurrent tendencies of the disorder, the family and personal history, and the characteristic signs of constitutional peculiarity (idiosyncrasy) exhibited by the patient. In febrile cases, the discrimination from rheumatic fever is at first difficult. A knowledge of the patient and his family helps, but may also lead astray, since a subject of autonomic ataxia is as liable as any other person to rheumatic infection. In the absence of authoritative bacteriologic, serologic or other exact tests for infective polyarthritis, the diagnosis becomes evident only as the case proceeds. It must be based on all the phenomena, not on any one point.

Considerable reliance, however, may be placed on the temperature curve, which, as pointed out by Cohen, may be utterly capricious or exhibit certain more or less well-defined phases, or even an apparent periodicity. Marked increase of eosinophils or a disproportionately low count of polymorphonuclear leukocytes, or a marked excess of urinary indican or ethereal sulphates, favors the diagnosis of angioneural disturbance, but is not conclusive. Nor are any of the reverse conditions conclusive negatively. A conclusive "therapeutic test" is not available.

Treatment must be individualized. During the acute stage the chief elements of treatment are rest (local and sometimes general), regulation of diet, elimination, and (relative) antisepsis. In some cases, special medication (and local applications) of a symptomatic and palliative character may be needed. During convalescence from prolonged febrile cases the administration of roborants and hematinics is desirable. During the intervals of freedom, treatment must be directed toward prevention. To this end, measures for reeducating the vascular reactions and for restoring the tone of the vasomoter centers must be instituted; and the special exciting and determining factors, intrinsic and extrinsic, of the individual case, must be sought out and avoided or combated. In addition to the carefully individualized regulation of life and diet, persistent elimination, antisepsis, applications of hot and cold water, sometimes massage and high frequency electric currents or discharges, and the administration of angiotoxic medicaments (including the preparations and products of the glands of internal secretion) are among the measures applicable.

**19. Anilin Dyes and Bacterial Development.**—The inhibitory effect which certain violet dyes, like gentian violet, methyl violet, dahlia, etc., exercise on certain bacteria, Simon and Wood found experimentally is not referable to their violet color, but to their chemical structure as triamino triphenyl methanes, and is intimately dependent on their basic auxochromic groups. Acid dyes, irrespective of their chemical structure and color, do not possess this inhibitory power.

### Annals of Ophthalmology, St. Louis

*January, XXIII, No. 1, pp. 1-215*

22 Diagnostic and Therapeutic Uses of Tuberculin in Ocular Diseases, and Some Claims Made for It. A. E. Davis, New York.
23 Two Cases of Binocular Coloboma of Optic Nerve in Same Family. G. S. Crampton, Philadelphia.
24 New Cataract Glasses. J. H. Claiborne, New York.
25 Anomalies of Retinal Pigment Epithelium and Their Clinical Significance. H. Gradle, Chicago.
26 Senile Cataract Extraction Followed by Certain Complications. D. F. Harbridge, Phoenix.
27 Relation of General Arteriosclerosis to Certain Ocular Conditions. E. Smith, St. Louis.

### Annals of Surgery, Philadelphia

*February, LIX, No. 2, pp. 145-320*

28 Bismuth Paste Treatment of Suppurative Sinuses and Empyema. E. G. Beck, Chicago.
29 *Nature of Shock. H. H. Janeway and E. M. Ewing, New York.
30 *Dietetic Treatment of Gangrene in Diabetes Mellitus. A. V. S. Lambert and N. B. Foster, New York.
31 *Complete Avulsion of Scalp. F. Flaherty, Syracuse, N. Y.
32 Intrathoracic Goiter. O. F. Lamson, Seattle, Wash.
33 Esophagoscope with Direct Outside Illumination. N. W. Green, New York.
34 Relation of Posterior Subluxation of Shoulder-Joint to Obstetrical Palsy of Upper Extremity. T. T. Thomas, Philadelphia.
35 Frequency and Significance of Injuries to Acromion Process. J. B. Mencke, Philadelphia.

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36 Stenosis of Pylorus in Infancy. C. L. Scudder, Boston.
37 Intussusception. F. O. Allen, Philadelphia.
38 Modern Laboratory Methods in Diagnosis of Surgical Diseases of Genito-Urinary Tract. A. T. Gaillard, Philadelphia.
39 *Technic for Performing Shockless Suprapubic Prostatectomy. W. E. Lower, Cleveland.

29. **Nature of Shock.**—By means of a considerable number of experiments, Janeway and Ewing found that as severe a degree of shock may be produced by artificial hyperrespiration, and by handling of the intestines when provision is made for keeping the carbon dioxid content of the blood high, as when it is allowed to fall to 40 or 50 per cent. of the normal. Shock produced by artificial hyperrespiration is said to be due chiefly to a long-continued, mechanical interference with the return of the blood to the heart. There is evidence that the early stages of shock produced by evisceration and handling of the intestines is due to inhibitory afferent impulses. At the end of the period during which the intestines were handled, none of the animals' nerve centers was exhausted. By such handling of the intestines a complete splanchnic paralysis of local peripheral origin is produced, and it is this paralysis which causes the subsequent fatal fall of blood-pressure and not exhaustion of the nerve centers.

In the presence of a good blood-pressure and unimpaired vasomotor compensatory mechanism, prolonged afferent electrical stimulation for two hours will produce shock or exhaustion of the nerve centers. If trauma to the sensory nerves is a factor in production of shock in an unconscious animal, it is wholly subsidiary to other factors, and it is questionable whether it was apparent in their experiments even when these other factors had rendered the nerve centers more vulnerable by toxic influences, as ether, or by a fall in blood-pressure.

The all-important factor in the development of shock, in so far as the forms which Janeway and Ewing have studied may represent shock in general, they hold, is loss of vasomotor control. It is, at least, the impossibility of regaining this control after it has reached a certain degree which determines the failure to recover. The mechanism of this loss and its maintenance is important. The loss of control and its maintenance is never caused by acapnia or central nervous exhaustion, but, aside from afferent impulses more especially splanchnic sensor impulses which may have initiated the shock and contributed to it, the loss of control was always due to local peripheral causes which in their work were mechanical obstruction, loss of blood and trauma to the viscera. The practical conclusions from these observations emphasize the necessity, in attempting to prevent shock, of providing against a fall of blood-pressure and local trauma, particularly within the abdomen, as the most important of all precautions.

30. **Diet in Diabetic Gangrene.**—Lambert and Foster call attention to certain surgical conditions to which diabetic patients appear peculiarly prone and to some factors which they believe are, in part at least, the cause of the failures, and to suggest a different mode of treatment and emphasize for these cases the importance of a proper diet. The conditions referred to are those changes which take place in the extremities, usually in the toes or feet, and which are classed as diabetic gangrene and more properly spoken of as gangrene in diabetics. They cite cases to show that these are not always cases of gangrene, though often considered as such, but simply infections which run a course rendered peculiar by having occurred in diabetic subjects.

First, with regard to those patients who present no evidence of acidosis, the urine gives no reaction with ferric chlorid (Gerhardt's test). These cases are divided by Lambert and Foster into classes: (1) where the urine becomes sugar free quite promptly after restriction in carbohydrate; (2) where the urinary sugar falls to trifling amounts, 1 to 5 grams per day, on restriction of starch, but fails to disappear completely on this diet. In both of these classes, without evidence of ketonuria, they claim the diet may be reduced at once to very small amounts of carbohydrate by using meats, eggs, fats and vegetables that contain little starch.

In addition to these foods, Lambert and Foster advise to begin the diet with an addition of a small amount of sugar after ten days. As this sugar, even though trivial in amount, indicates that hyperglycemia still persists, and further dietetic change is required, it becomes necessary to interpolate days when the total quantity of food is restricted. This vegetable day may be used once a week, or at most, every fourth day. The urine of this day must be watched for signs of acidosis. When the total sugar excretion has been reduced to 5 or 10 grams a day and will not reduce further, as occasionally happens, this vegetable day is a potent means of clearing up conditions.

When acidosis is a pronounced condition, it is necessary to use alkalies at all times and to meet the condition in so far as possible by diet. The oatmeal diet gives the best results, and consists of 64 ounces of oatmeal gruel, black coffee in small amounts, if desired, and water *ad libitum*. This diet is given solely to combat acidosis, but it not infrequently happens that sugar excretion diminishes or vanishes with its use. An oatmeal day may be used once or even twice a week in severe cases, and when the sugar excretion is excessive or obstinate, a vegetable day followed by an oatmeal day, reduces both sugar and ketone excretion.

When the urine becomes free of sugar, it is wise to delay at least five days before permitting an increase in the starch ingest. One may begin by advising for a diabetic whose urine has been free of glucose for one week, that he use three units a day (30 grams of starch). If there be no return of sugar, one unit may be added every week, until the patient is using 70 to 80 grams of starch per day. Further additions should be less frequent and it is a safe rule to permit no more than ten units (100 grams starch) during the first six months of treatment, even though the urine may be constantly devoid of sugar.

31. **Complete Avulsion of Scalp.**—Flaherty's method of Thiersch grafting is said to be a modification of the regular Thiersch graft, which he has now used for several years, and finds much more efficient. The grafts are removed in the regular manner, using a sharp razor on the stretched skin. They are then applied to the raw surface, allowing the serum to hold them in place, no solution or moisture being applied. After having covered the desired surface with grafts, it is immediately covered with either bismuth powder or gauze covered with sterilized vaseline, or simple bismuth ointment. This dressing is allowed to remain in place for four days, when on removal, the grafts are found growing much more satisfactorily than when the moist method is used.

39. **Shockless Suprapubic Prostatectomy.**—An hour before the operation, Lower gives the patient a hypodermic injection of morphin and scopolamin, the size of the dose depending on his age and condition. Immediately before the operation the bladder is irrigated and 60 to 90 c.c. of a 5 per cent. solution of alypin are injected through a catheter, the catheter is clamped, and both catheter and solution are allowed to remain. Nitrous oxid-oxygen is administered by an expert anesthetist; this anesthetic, when administered by one trained in its use, being safer than ether and to some extent, in itself a preventive of shock.

The bladder is approached in the usual way, except that the skin incision and every division of tissue is preceded by a thorough infiltration with novocain in 1:400 solution. When the bladder is exposed, it is elevated with curved bladder hooks and the bladder wall is thoroughly infiltrated with the novocain solution. By gentle retraction and without injuring the cut edges of the bladder wall, the prostate is exposed intravesically. The bladder mucosa on the prejecting prostate is infiltrated with novocain, and along the edge of the capsule a deep infiltration is made. With careful and most gentle manipulations, the prostate is enucleated with the finger. Narrow strips of gauze are packed along the side of the catheter on top of the mucous membrane so that the raw surfaces of the capsule are brought in apposition, a procedure which effectively prevents hemorrhage. The two ends of the urethra are thus brought together, so that a continuous funnel-shaped mucous membrane is produced—a most perfect factor.

### Archives of Pediatrics, New York

*January, XXXI, No. 1, pp. 1-80*

40 Cases of Edema in Infants. H. D. Chapin, New York.
41 Case of Hydrophobia. A. Hand, Philadelphia.
42 Obscure Manifestations of Rheumatism in Childhood. J. A. Collver, Los Angeles.
43 Experience with "Whey Modified Milk" in Infant Feeding. J. S. Leopold, New York.
44 Breast Feeding. E. C. Jones, Philadelphia.
45 Investigations in Vulvovaginitis by Means of Female Urethroscope. J. F. Sinclair, Philadelphia.
46 Position of Stomach in Children. J. W. Sever, Boston.
47 Case of Multiple Congenital Malformation. A. W. Tallant, Philadelphia.

### Canadian Medical Association Journal, Toronto

*February, IV, No. 2, pp. 85-180*

48 Triple Alliance: Heart, Kidney and Arterial Disease. O. Klotz, Pittsburgh.
49 Symptoms and Treatment of Hyperthyroidism. C. C. Tatham, Guelph, Ont.
50 Small-Pox and Chicken-Pox. H. W. Hill, London, Ont.
51 *Immunities of Tolerance. J. L. Todd and J. G. Adami, Montreal, Ont.

**51. Immunities of Tolerance.**—The purpose of this paper is to express a hypothesis concerning certain forms of immunity. Natives of the tropics, and Europeans who have "become acclimatized" by long residence in the tropics, are often said to be immune to certain tropical diseases, such as yellow fever and malaria. But a very short residence in the tropics is enough to make it obvious to any physician that natives and acclimatized Europeans may suffer from the diseases to which they were said to be immune. As a rule, however, the disease in them is much less serious than it would be in a new-comer. Their immunity in such cases is, then, according to Todd and Adami, in the nature of a tolerance, and it is not a complete sterilizing immunity by which the parasite is destroyed. The diseases in which such a tolerance is most striking are those which are transmitted by insects or by other invertebrate hosts. In the tropics, insect transmittors of disease are never absent, neither are the sources at which they may become infected with disease. Consequently, it is obvious that those living in the tropics, under ordinary conditions, must be constantly exposed to infection by disease transmitted through the agency of biting insects. In short, residents in the tropics may be free from the symptoms usually caused by infection with certain viruses, although they harbor those viruses; and the method by which the viruses are transmitted makes it certain that every individual is normally inoculated with them many times in a year.

If such apparently immune individuals leave the tropics and live for several years in countries in which tropical diseases do not exist, they will, on their return to the tropics, suffer severely from disease produced by the parasites of which they were once tolerant. Therefore, Todd and Adami conclude that the apparent immunity which can be acquired against the parasites causing many diseases, is often the result of a tolerance of those parasites, acquired by their host. The tolerance is maintained by a constant infection by the parasite and it disappears when the infection maintaining it ends. A constant infection on which tolerance depends may conceivably result (a) from a long-continued single infection, or (b) from many reapeated infections. It is possible that tolerances may be produced in both or either ways.

### Illinois Medical Journal, Chicago

*February, XXV, No. 2, pp. 61-136*

52 Rarer Fractures about Wrist Joint. D. B. Phemister, Chicago.
53 "Lest We Forget" Our Lymphatics. W. F. Grinstead, Cairo.
54 Uncinariasis with Case Report. C. Molz, Murphysboro.
55 Subjective Tests of Hearing. G. H. Mundt, Chicago.
56 Blood-Clot Method in Mastoid Operations. A. H. Andrews, Chicago.
57 What Illinois Can Do To Prevent Blindness. W. O. Nance, Chicago.
58 Treatment of Nerve Deafness. J. Holinger, Chicago.
59 Relation of Nasal Troubles to Catarrhal Conditions of Ear. G. W. Geiger, Kankakee.
60 *Time Element in Operative Treatment of Abdominal Injuries. F. A. Besley, Chicago.
61 Obstruction of Intestines: Review of Seventy-Five Cases. C. U. Collins, Peoria.
62 Sporotrichosis in United States. W. W. Hamburger, Chicago.
63 Three Score Years and Ten—and After. C. B. Johnson, Champaign.
64 County Society Bulletin. E. W. Flegenbaum, Edwardsville.
65 Organization. L. H. A. Nickerson, Quincy.
66 Medical Organizations—Old and New. G. F. Lydston, Chicago.

**60. Operative Treatment of Abdominal Injuries.**—The authors examined the records of 172 cases and summarized their findings as follows: Abdominal injuries are of a serious nature. General mortality, 31 per cent. As to types: severe subcutaneous injuries, mortality, 67 per cent.; gunshot wounds, mortality, 44 per cent.; stab wound, mortality, 8 per cent.; mild subcutaneous injuries, mortality, 0 per cent. The result of delayed operation in serious cases is to increase mortality. In subcutaneous severe injuries their figures show this to be the case, as well as in stab wounds, and they hold it true of gunshot wounds as well. Delay is most common in the subcutaneous injuries, because of failure to correctly diagnose the gravity of the case. In other injuries, delay is sometimes due to an unwarranted assumption that the wound is not perforating. The authors urge early diagnosis and early operation of all serious cases, especially of severe subcutaneous injuries, which are those most often overlooked.

### Journal of Cutaneous Diseases, New York

*February, XXXII, No. 2, pp. 111-186*

67 Intermittent Attacks of Dermatitis in Household, Probably due to Arsenic. G. F. Harding, Boston.
68 Syphilis in Curriculum of Medical Schools. W. T. Corlett, Cleveland.
69 Case of Probable Sarcoid Resembling Lupus Erythematosus: Treatment by Finsen-Ray. H. Fox, New York.
70 Case of Pustulo-Bullous Eruption, Simulating Pemphigus Foliaceus. H. H. Hazen, Washington, D. C.
71 Diffuse and Disseminate Dermatolysis: Report of Case. F. Wise and E. J. Snyder, New York.

### Lancet-Clinic, Cincinnati

*February 7, CXI, No. 6, pp. 157-182*

72 Syphilis of Liver. O. Berghausen, Cincinnati.
73 Pre-Medical Vocational Guidance. P. G. Woolley, Cincinnati.
74 Pancreatitis as Factor in Digestive Disorders. W. D. Haines, Cincinnati.
75 Case of Acute Epiphysitis of Femur—Treated First for Rheumatism. E. B. Glenn, Asheville, N. C.

### Medical Record, New York

*February 14, LXXXV, No. 7, pp. 277-322*

76 *Chronic Diarrhea and Constipation. A. Schmidt, Halle, Germany.
77 Stiff and Painful Shoulders. H. W. Marshall, Boston.
78 Metabolism and Vitality. J. B. Nichols, Washington, D. C.
79 Bacteriemia, Infections and Bright's Disease. W. C. K. Berlin, Denver.
80 *Use of High Frequency Spark for Relief of Prostatic Obstruction in Selected Cases. H. G. Bugbee, New York.
81 *Upper Respiratory Mucous Membranes as Emunctories. J. A. Hagemann, Pittsburgh.
82 Dermatoses due to Toxemia. B. F. Ochs, New York.

**76. Chronic Diarrhea and Constipation.**—Putrefaction of the fecal matter within the bowels, according to Schmidt, is not, as commonly believed, increased in constipation, but on the contrary, is decreased, and the cause is given as an exaggerated digestion of the food on account of the cellulose being better dissolved by these patients than others.

The following is the procedure Schmidt has adopted in cases of spastic constipation: First, forbid the patient to take any more purgative and put him on a common mixed diet. If after the last defecation thirty-six to forty-eight hours have elapsed, examine the rectum with the finger. If it is entirely filled with large quantities of feces and no obstacle is to be made out, it is a case of functional dyschezia, which has to be treated by enemas. If the rectum is free, or only small residues of fecal matter are present, order the patient to take twice a day a suppository of a fair amount of extract of belladonna, and to lie down or at least rest several hours during the day. If he complains of colicky pains, hot compresses must be applied. Now wait several days without troubling about the complaints of irritability, headache, unclear brain, inability of thinking, etc., which are often made by neurasthenic patients. Only once a day the rectum is again examined. If the feces reach the rectum but are not expelled, the case is to be regarded as a combination of functional obstipation with functional dyschezia. More often the stool comes by itself in this period of waiting, the mass

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being in no way hard or thick, but weak or pressed into small cylinders as a sign of spastic complication.

Different from this, the patient afflicted with the atonic form of constipation, if not neurasthenic, often does in no way feel uncomfortable during four, six and eight days or more, though the feces have not yet passed into the rectum. If a large enema is administered, or a purgative given, the patient has a stool consisting of big hard balls, which are generally free from mucus and do not exhibit signs of progressive decomposition.

80. **High Frequency Spark for Prostatic Obstruction.**—The cases of small, fibrous prostates, median bar elevation, and small lobe obstructions, without general enlargements, have been symptomatically cured by Bugbee. The cases of obstruction from a collar of prostatic nodules, without lateral lobes, have been completely relieved where the tone of the bladder was fair, and improved even where the bladder wall was atonic. Cases of general adenoma, where open operation was contra-indicated, were greatly improved.

81. **Upper Respiratory Mucous Membranes as Emunctories.**—Hagemann sets up the postulate that the mucous membranes of the upper respiratory passages are eliminative organs for substances resulting from metabolism, which substances circulate in the blood or lymph-currents, or both, in a manner akin to similar processes taking place during the course of certain diseases and after ingestion of various pharmaceutical substances. Applying this postulation to the exasperating array of patients suffering from so-called chronic rhinitis who "make the rounds" without deriving more than temporary relief, Hagemann says, it might not be amiss to transiently consider the local treatment a secondary element, and concentrate efforts on the segregation of the "vera causa."

The "colds in the head" following dietetic and bibulous indiscretions Hagemann cites as familiar instances of misnomers. Supplementary to this hypothesis comes the suggestion that we, while not altogether ignoring, should at least cease to concentrate our attention on the interior of the nose of patients who are sufferers from hay fever and allied disorders. The fact that such persons, having no demonstrable anatomical nasal abnormality, on migrating to a salubrious zone, are promptly relieved of their distressing symptoms, has tended to fortify us in the belief that the etiology of their ailment is simply extraneous. Yet, Hagemann says, it is conceivable that such persons perennially excrete, intranasally, polymorphic substances, which, in the flowering season, unite chemically with certain pollens then extant, thereby forming a product inherently irritating to the mucous membrane on and in which such chemical reaction is taking place.

### Michigan State Medical Society Journal, Grand Rapids

*February, XIII, No. 2, pp. 73-126*

83 Operation for Cataract with Report of Sixteen Cases. D. E. Welsh, Grand Rapids.
84 Ocular Disorders as Symptoms of Systemic Disease. P. J. Livingstone, Detroit.
85 Care and Treatment of Deep and Superficial Injuries of Eyeball. C. L. Chambers, Detroit.
86 Preliminary Report of Ocular Defects of Schoolchildren Two or More Years Below Grade. C. R. Fulkerson, Kalamazoo.
87 Injuries to Head, and Ear Disturbances. E. Amberg, Detroit.
88 Paracutic Deafness: New Explanation and Treatment, with Report of Two Cases. W. Haughey, Battle Creek.
89 Lymphangitis Simulating Otitis Media. L. J. Goux, Detroit.
90 Technic of Submucous Resection. C. H. Baker, Bay City.
91 Personal Experience with Submucous Operation. A. Odell, Detroit.
92 Mastoiditis. E. J. Bernstein, Kalamazoo.
93 Acute Pharyngitis. B. N. Colver, Battle Creek.

### Military Surgeon, Washington, D. C.

*February, XXXIV, No. 2, pp. 101-200*

94 Trip to China. P. M. Ashburn, U. S. Army.
95 Surgeon's Personal Field Armamentarium. G. M. Blech, U. S. Army.
96 Benefits Derived from Camps of Instruction, to Medical Officers, in Conjunction with Field and Line Officers. C. Schultz, U. S. Army.
97 Prophylaxis under G. O. 31, War Department, 1912, for Hawaiian Department. H. I. Raymond, U. S. Army.
98 Food Supply of Enlisted Man in Volunteer Service. O. D. Wescott, U. S. Army.
99 Co-Operation of Line in Hygiene and Camp Sanitation. C. B. Walls, U. S. Army.

### New York Medical Journal

*February 7, XCIX, No. 6, pp. 253-304*

100 •Personal Experience with Tumors of Carotid Body. J. C. Da Costa, Philadelphia.
101 Neoplasm of Bladder. V. C. Pedersen, New York.
102 Inflating Gastroscope and Duodenoscope. R. C. Kemp and A. Vander Veer, New York.
103 Etiology of Oriental Beriberi. W. P. Chamberlain, Plattsburg Barracks, N. Y.
104 Case of Auricular Fibrillation in Child. S. G. Ehrenreich, New York.
105 Lesions Produced by Various Streptococci; Endocarditis and Rheumatism. E. C. Rosenow, Chicago.
106 Herpes Zoster Oticus. V. Dabney, Washington, D. C.
107 Psychanalysis. S. A. Tannenbaum, New York.
108 Cutaneous Epitheliomas Cured by Sunlight. H. H. Seelye, Daytona, Fla.

100. **Tumors of Carotid Body.**—DaCosta reports three cases of this kind. He believes that the carotid body exists more frequently than was formerly believed; that it is of unknown function; that it should undergo fibrous atrophy at or soon after puberty; that if such atrophy fails to occur, the body will probably enlarge and such enlargement is to be regarded as a tumor. Tumors of the carotid body are of the type of endotheliomata known as peritheliomata. These tumors, originally innocent, usually pursue a long course. Rapid growth is exceptional until years have passed. Sooner or later they tend to take on rapid growth and to cause functional involvement. Rapid growth signifies malignancy. A malignant change is sarcomatous in character.

In one of DaCosta's cases the growth was extremely rapid from the time the tumors were first noticed, and death occurred within a year. He believes that in all probability the tumors had existed for several or many years before they were discovered and were first noticed when quite large. The growth is almost invariably unilateral. One of DaCosta's cases is the only instance on record of a bilateral growth.

The carotid body is associated intimately with important vessels and nerves, its position being retrocarotid rather than intercarotid. It has a large blood supply which is carried by the ligament of Mayer. Any injury to the body produces profuse hemorrhage and if an operation is once started, it must be completed or the man will probably bleed to death. The relations of the carotid body render any operation difficult and dangerous and make postoperative complications probable. The carotid body is intimately associated with nerves, involvement of which will produce symptoms. Tumors are lifted by the pulsating carotid artery, and are movable laterally, but not up and down. DaCosta states that operative interference is comparatively safe when the tumor is recent and small, but is fraught with grave peril when the tumor is old and with especial danger if it is large. The larger and older the tumor the more probable it is that ligation of the common carotid or of all the carotids will be necessary in the removal and that injury to important nerve structures will be almost inevitable. Early operation may enable to dissect the tumor from the carotids, or to get off with tying the external carotid alone. As these growths tend strongly to become malignant eventually, as early operation is reasonably easy and comparatively safe, as late operation is difficult and highly dangerous, and as sooner or later the tumor, if let alone, will kill the patient, early operation is imperative.

### Oklahoma State Medical Association Journal, Muskogee

*February, VI, No. 9, pp. 369-414*

109 Exophthalmic Goiter Cured by Ligating One Superior Thyroid Artery. L. F. Watson, Oklahoma City.
110 Acute Suppurative Osteomyelitis. R. V. Smith, Guthrie.
111 Leukemia. W. E. Stewart, Guthrie.
112 Nasal Polypus. C. E. Orelup, Enid.
113 Ethics. G. A. Morrison, Poteau.
114 What Doctors Owe to Each Other. F. L. Watson, McAlester.
115 Typhoid with Paralysis and Gangrene. A. G. Hughey, Dewar.

### Surgery, Gynecology and Obstetrics, Chicago

*February, XVIII, No. 2, pp. 145-216*

116 •Simple and Rapid Method of Pyloric Closure in Gastro-Enterostomy. G. E. Brewer, New York.
117 Neoplasms of Renal Pelvis with Special Reference to Transplantation in Ureter and Bladder. W. E. Lower, Cleveland, O.
118 •Function of Periosteum in Bone Transplants. Based on Four Human Transplantations without Periosteum and Some Animal Experiments. C. A. McWilliams, New York.

119 Surgical Treatment of Intramedullary Affections of Spinal Cord: Report of Eleven Cases. C. A. Elsberg, New York.
120 *Heart in Fibroid Tumors of Uterus. J. A. McGlinn, Philadelphia.
121 Comparative Value of Functional Tests in Surgical Diseases of Kidney Secondary to Obstruction in Lower Urinary Tract. L. G. Rowntree, J. T. Geraghty and E. K. Marshall, Baltimore.
122 Intercarotid Paraganglion and Its Tumors: Report of Case. D. C. Balfour and F. Wildner, Rochester, Minn.
123 *Apparent Cures of Renal Tuberculosis. E. L. Keyes, New York.
124 *Roentgenographic Diagnosis of Gall-Stones and Cholecystitis. L. G. Cole, New York.
125 Pericolonic Membranes. J. R. Eastman, Indianapolis, Ind.
126 Fixation of Fractures by Means of Autogenous Intramedullary Bones Splints. C. E. Phillips, Cristobal, Canal Zone.
127 *Indirect Transfusion of Blood. A. Crotti, Columbus, O.
128 *Mathematical Calculation of Prognosis in Fractures at Ankle and Wrist E. H. Skinner, Kansas City, Mo.
129 Case of Pernicious Anemia Treated by Splenectomy; Marked Improvement. W. S. Harpole and C. M. Fox, Chicago.
130 Extraperitoneal Cesarean Section. W. R. Nicholson, Philadelphia.
131 Some Causes of Failure in Bacterin Therapy. J. F. Biehn, Chicago.
132 *New Appliance for Internal Fixation of Fractures of Femoral Neck. M. E. Preston, Denver.

116. Abstracted in THE JOURNAL, November 22, p.1928.

118. See THE JOURNAL, January 31, p. 346.

120. **Heart in Fibroid Tumors of Uterus.**—McGlinn's study is based on the records of 240 cases: From this report a definite entity of a fibroid heart is sustained. The author states that if the fibroid tumors of the uterus were the cause of all the heart lesions described in this study, then every tumor, regardless of its size and situation, should be removed—a contention that the most radical would hardly admit. Uterine myomas, occurring in middle and advanced life, are practically always associated with sclerotic heart lesions. These lesions are a part of a general process and bear no relation to the fibroid. Large tumors, by increasing the work of the heart, and tumors causing pressure on the pelvic circulation may produce hypertrophy and secondary dilatation of the heart. Anemia, from hemorrhages, infections and certain degenerations of the tumor, may affect the heart secondarily, causing changes such as fatty degeneration, brown atrophy and cloudy swelling. The majority of cases of fatty degeneration, brown atrophy, cloudy swelling, myocarditis, etc., found in connection with fibroid tumors of the uterus are not caused by the tumor, but by conditions entirely foreign to the tumor.

123. **Apparent Cures of Renal Tuberculosis.**—The most important feature of this case cited by Keyes, is the distribution of lesions in the infected kidney. Its upper pole was converted into a cheesy mass; the remainder of the kidney showed a few evidences of beginning tuberculosis scattered here and there, the most notable of which was an ulceration on one of the lower papillae. The pelvis of the kidney was not far from normal. He points out that we make the pathologic and clinical pictures coincide by assuming that the original lesions were at the upper pole and closed with caseation of that pole, that the kidney pelvis was but little infected, and that with spontaneous shutting off of the tuberculous lesion in the upper pole, the whole process became quiescent for six years, only to break out again with precisely the same process at the lower pole. If this patient had come to autopsy after being killed in an accident, at some time between the first and second outbreaks of his renal tuberculosis, Keyes says, his kidney might have gone down in history as proof that renal tuberculosis can and does heal with only partial destruction of the parenchyma.

The second case is one of partial healing of renal tuberculosis with remission of symptoms for two years. Looking at these two specimens, Keyes thinks we may anticipate the day when specimens similar to these shall be made the basis of a plausible but entirely unwarrantable pathologic attack on nephrectomy for the cure of renal tuberculosis.

124. **Diagnosis of Cholelithiasis and Cholecystitis.**—Indirect evidence of gall-stones, or rather of an accompanying cholecystitis, as presented by adhesions involving the stomach, cap, duodenum, or hepatic flexure, Cole says, is of more clinical value than the detection of the gall-stones themselves, because the adhesions represent an accompanying infection, requiring surgical intervention, while a gall-stone without infection may remain in the gall-bladder indefinitely without causing symptoms. He states that gall-stones may be detected sufficiently often to justify a roentgenographic search for them, but the absence of any direct evidence does not justify one in making a negative diagnosis, and should not prevent surgical intervention, provided it is clearly indicated by the history.

127. **Indirect Transfusion of Blood.**—Crotti gives the following technic: Iodin preparation of the skin of the donor. Local anesthesia with novocain, 1 per cent. Incision of the skin 3 or 4 c.c. long in the angle of the elbow. The cephalic vein is dissected out and cut at the upper end of the incision. The proximal end is ligated with catgut. To the distal end three small mosquito forceps are applied at equal distance one from the other, in order to maintain the lumen of the vein open. A small artery clamp applied a few centimeters below prevents the blood from leaking. The same operation is performed on the recipient, with the difference that the vein is ligated at the lower end of the incision. A blunt needle which has been adapted to a syringe is introduced into the vein of the donor, in the opposite direction of the blood current; blood is aspirated into the syringe, and reinjected into the vein of the recipient, in the same direction as the blood current.

The transfusion can be repeated as often as is deemed necessary without coagulation, provided needle and syringe are freshly washed each time in a warm normal salt solution. The best plan is to have two needles and two syringes and to have one set washed by an assistant while the other is in use. When transfusion is terminated, the veins are ligated and the skin incision closed. By this method any amount of blood can be transfused safely from one patient to another and the exact amount of blood transfused is known. The fact that the blood is venous seems to be without importance.

128. Abstracted in THE JOURNAL, Oct. 12, 1912, p. 1397.

132. **Internal Fixation of Fractures of Femoral Neck.**—The essential reason for failure in fixation of fractures of the femoral neck, Preston believes, is due to the fact that the ordinary screw or nail used for this purpose secures its hold only in cancellous tissue. To obviate this difficulty he has devised a screw-plate which secures its hold on the compact tissue below the great trochanter and will maintain the normal angle of the neck in spite of the action of the thigh and hip muscles. It is a combination of a screw and a plate in one piece. The screw portion is of the ordinary wood type and is made in varying lengths, while the plate part is fashioned after the Lane plate. The screw portion joins the plate at about 110 degrees, which is less than the angle at which the femoral neck joins the shaft. The difference is due to the fact that the surface of the shaft just below the trochanter is not parallel with the axis of the femoral shaft, and since the plate secures its hold on this portion of the bone, the angle has been adapted accordingly. The length of the screw portion varies with the size of the bone and the position of the fracture.

When the break is near the inner end of the neck, the screw should extend well into the head of the bone. When the fracture is situated at the base of the neck, a shorter screw will accomplish the desired fixation. A number of sizes should be at hand, so the surgeon may select the proper length. The angle at which the plate joins the screw is such that the plate clears everything as the appliance is being screwed into position. Before the screw is entirely driven home, the plate should be bent with the pliers so it will fit the surface of the femur with which it will ultimately come in contact.

## West Virginia Medical Journal, Wheeling

*February, VIII, No. 8, pp. 215-248*

133 Eclampsia. R. M. Baird, Wheeling.
134 Treatment of Tuberculosis in Home. S. A. Slater, Oil City, Pa.
135 Differential Diagnosis of Unconscious Conditions. E. S. Dupuy, Summer Lee.
136 Chronic Suppurative Otitis Media. H. R. Johnson, Fairmont.
137 Case of Cerebrospinal Meningitis. S. L. Cherry, Clarksburg.

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## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

### British Medical Journal, London

*January 31, I, No. 2770, pp. 229-284*

1 *Linitis Plastica, or Leather-Bottle Stomach: Report of Three Cases. J. Bland-Sutton.
2 *Two Years' Operating to the Clock. J. O'Conor.
3 Production of General Symptoms in Hemoglobinemia. J. O. W. Barratt and W. Yorke.
4 Case of Eosinophil Ascites. H. D. Rolleston.
5 Case of Syphilitic Paralysis of Esophagus. R. Saundby.
6 Importance of Leukocyte Count in Doubtful Cases of Appendicitis. G. F. Aldous.
7 Functions of Colon, with Special Reference to Movements of Enemas. H. Drummond.
8 Pre-Peritonitic Stage of Acute Appendicitis. V. Z. Cope.
9 Alternative Methods of Treating Appendix Stump. T. B. Henderson.
10 Appendicitis with Symptoms Resembling Those of Renal Colic. B. Hughes.

**1. Leather-Bottle Stomach.**—The point made by Bland-Sutton is that so-called tumors of the stomach which are pronounced cancer may be cases of linitis plastica. He mentions the fact that surgeons during the last twenty years have often opened the abdomen expecting to find a condition of stomach suitable for gastrojejunostomy, and on exposing the mass have found a hard pylorus embedded in adhesions. Dismayed by such experiences, they have considered the condition to be cancerous, and closed the incision. Reports on the results of gastrojejunostomy often contain accounts of patients who have been submitted to operation in the belief that a localized lump in the wall of the stomach was cancerous; the surgeon has been surprised, on examining the patient two years afterward, to find that the suspected cancerous lump has disappeared. So many of these cases have been observed and reported that surgeons willingly admit the difficulty of deciding between a stomach converted into the semblance of a leather bottle by cancer, or by inflammation. Such changes are not confined to examples in which the stomach is uniformly affected, for the change may be limited to a relatively small area of the stomach, but it shows clearly the advantage, in doubtful cases, of giving the patient the benefit of the doubt as well as the benefit which gastrojejunostomy will bring if the lump in his stomach is of inflammatory origin.

**2. Two Years' Operating to the Clock.**—O'Conor describes his system of technic as follows: The hands and arms are treated liberally to hot water, soap and nailbrush, hot formaldehyd solution (1 in 200), alcoholic mercuric solution (1 in 1,000) and aqueous acid mercuric solution (1 in 1,000), respectively. During operation the sterilized instruments are kept in a basin of carbolic lotion (1 in 40); sponges are all dry sterilized, except the Turkey sponges, which are kept in acid mercurial solution and thoroughly wrung out in warm carbolic lotion before being used. No lotions are used in wounds, and only in cases of abdominal pus collections are Turkey sponges employed, and then merely to form a more effective walling-on of the danger zone. Sterilized silk is used for all intraperitoneal work except when pus is present; then Lister's catgut is exclusively employed. Wounds above the umbilicus are closed by interrupted through-and-through strong silk sutures; below the umbilicus he always employs tier sutures, except in septic cases with drainage. O'Conor never buries silk in any parietal wound, hernial or otherwise. All bleeding points are ligated, and if "dead" spaces cannot be avoided they are left open to drain themselves. No flushing of the abdominal cavity or of wounds is practiced, except in curetting a womb and arthrotomy of infected joints. Dry sterilized gauze dressing is applied to all clean wounds. Collapse and shock are treated by saline infusion, hot saline and brandy enemas, temporary elevation of foot of bed, and hypodermic injections of aseptic ergot, camphorated oil and strychnin.

### Indian Medical Gazette, Calcutta

*January, XLIX, No. 1, pp. 1-40*

11 Surgeon-General James Ellis. D. G. Crawford.
12 Ambulance Transport in Very Difficult Mountainous Country. R. Kennedy.
13 Useful Modification in Extirpation of Lacrymal Sac. F. P. Maynard.
14 Myiasis (Screw-Worm Disease) in Behar. S. D. Ricley.
15 Does Bilharzia (Schistosomiasis) Exist in India? F. Milton.

### Journal of State Medicine, London

*February, XXII, No. 2, pp. 65-128*

16 Co-Ordinated Tuberculosis Scheme. H. O. West.
17 Lutte contre la Fièvre Typhoide par les Moyens Spécifiques; Sérum Antityphique. A. Rodet.
18 Influence of Underground Temperatures on Labor Capacity of Miners. J. Cadman.
19 *Cell-Inclusions in Scarlet Fever and Measles. E. H. Ross.
20 *New Method of Fixation. S. Szecsi.
21 Prevention of Mental Defect in Children. T. Thompson.
22 Sanitary Conservancy in Kingston, Jamaica. A. McDonald.

**19. Cell-Inclusions in Scarlet Fever and Measles.**—Although the intracellular parasites disappear from the blood of cases of scarlet fever and measles as soon as the febrile stage is over, they may still be found in the cells of the aural, nasal and abscess pus for long periods after convalescence is established. Ross has been able to produce an apparent numerical reduction of parasites in these sites by keeping the patients under the influence of arsenic. The ideal test in his opinion would consist of the routine treatment with salvarsan of every case of scarlet fever and measles admitted to isolation hospitals, and then the keeping of every case under the influence of arsenic or mercury until discharged from hospital or convalescent home. The patients must be kept under the influence of the drug, because there are parasites to kill, and small irregular dosage is not enough. Ross suggests the following routine precedure to be adopted in all cases of scarlet fever and measles. An initial dose of 0.1 to 0.2 gm. of salvarsan should be given intravenously according to age, and this repeated as soon as practical—within a week if possible. For small children a weak alkaline solution of salvarsan may be administered hypodermically. Then each child should be given either mercury or arsenic in amounts according to practice and similar to that employed in congenital syphilis. But this administration, whether internal or by inunction, must be kept up regularly until the patient is discharged from hospital or from convalescence.

**20. New Method of Fixation.**—Superoxid of benzoyl is suggested as a fixing medium by Szecsi. It is a white powder produced by the action of benzoyl chlorid on $H_2O_2$ and has the chemical formula of $C_6H_5.CO.O.OCO.C_6H_5$; it is insoluble in water, but easily dissolved in acetone and pyridin. For fixing both the acetonic as well as the pyridinic solution can be used, although the acetonic solution is more suitable for general histologic and also for hematologic purposes; it is more advisable to use the pyridinic solution for parasitologic purposes. The fixing of tissue is said to be entirely satisfactory with this method. The portions fixed in this manner when stained afterward show far better color contrasts than those obtained by other methods and the Romanowski coloring can be carried out in the sections without the difficulty which has generally been met with in all fixing methods used up till now.

### Sei-I-Kwai Medical Journal, Tokyo

*January, XXXIII, No. 1, pp. 1-6*

23 Experiences with "Krause" Skin Grafting. T. Miyata.

### Annales de Gynécologie et d'Obstétrique, Paris

*January, XVI, No. 1, pp. 1-64*

24 *Gangrene of Cervix from Injection of Caustic for Criminal Abortion. A. Herrgott.
25 *Pregnancy Cholecystitis. J. Audebert.
26 *Pregnancy Pernicious Anemia. C. Sauvage and C. Vincent.

**24. Gangrene of the Cervix.**—The young woman had made three injections of a very concentrated solution of mercuric chlorid, and the entire uterine cervix sloughed off with fatal outcome. The fundus had not been affected directly.

**25. Pregnancy Cholecystitis.**—Audebert reports a case of acute cholecystitis at the fifth month of pregnancy in a woman with a tendency to familial cholemia. The disturbances had been attributed to stomach trouble at first, and the case teaches the necessity for examining the condition of the gall-bladder in all pregnant women with symptoms suggesting

stomach trouble. Ice to the region of the liver and abstention from food brought rapid improvement, and delivery proceeded normally to term. The case was noticeable on account of the profuse intestinal hemorrhages as the cholecystitis subsided; there were also multiple subcutaneous suffusions of blood, although there was no tendency to hemophilia. Complete recovery soon followed.

26. **Pregnancy Pernicious Anemia.**—The pernicious form of anemia was evident through sixteen months, confirmed by nineteen examinations of the blood. There was evidently a predisposition before the pregnancy, but the latter aggravated the anemia into the severest type, the reds dropping to 600,000. A macerated fetus was expelled and at once the blood picture improved, the reds running up in six days to 3,000,000. The fact that the patient was a syphilitic was not discovered until after several months, but the anemia was manifestly of syphilitic origin. The case impresses the necessity for examining for syphilis in every case of anemia in a pregnant woman.

### Annales de l'Institut Pasteur, Paris

*December, XXVII, No. 12, pp. 1021-1156*

27 Research on Cultivation of the Aspergillus Niger. (Recherches sur la substitution au zinc de divers elements chimiques pour la culture de l'aspergillus niger.) Javillier.
28 The Parasite of Rabies. II. (Le diagnostic de la rage par la demonstration du parasite specifique.) L. Negri Luzzani.
29 Origin of Alexin and Its Presence in the Blood Stream. E. Wollman.
30 The Antiseptic Power of the Serum. M. Rubinstein.
31 The Rôle of Water in Growth of Plants. (Recherches de physiologie végétale. I.) P. Mazé.

### Annales de Médecine, Paris

*January, I, No. 1, pp. 1-128*

32 *Pathogenesis of Congenital Hemolytic Icterus. A. Chauffard.
33 *The Lesions of Chronic Progressive Chorea. (Chorée d'Huntington. La dégénération atrophique cortico-striée.) P. Marie and J. Lhermitte.
34 *Lumbar Puncture for Diagnosis and Treatment of Syphilis of the Nervous System. (Comment depister la syphilis nerveuse?) P. Ravaut.
35 The Histologic Process of the Spontaneous Defense of the Organism against Cancer. H. R. Duval.
36 Infectious Congestion of the Lungs and Pleura. (Corticopleurites aigues.) F. Bezançon and S. I. de Jong.

32. **Congenital Hemolytic Jaundice.**—Chauffard's article opens the first number of this new and handsome monthly which is to be devoted exclusively to original articles and book reviews, without any abstract department. It is published by Masson et Cie, who issue most of the leading French medical monthlies in fine style. Chauffard's evidence on congenital jaundice points conclusively to an inherited taint, syphilis or tuberculosis, on which is superposed some abnormal hemolytic action on the part of the spleen as the factors responsible for the hemolytic icterus. These views suggest the necessity for specific treatment for the syphilis or tuberculosis, with possibly reduction of spleen functioning by Roentgen exposures or splenectomy as the last resort. No case of recovery has been known, but treatment along the above lines has never been applied systematically enough to date for any estimation as to the possible therapeutic outcome.

33. **The Lesions of Chronic Progressive Chorea.**—Twelve illustrations in the text and a colored plate sustain the assertions of Marie and Lhermitte that atrophy and its degeneration of the cerebral cortex and of the striate body are the organic lesions responsible for Huntington's chorea.

34. **Nerve Syphilis.**—Ravaut urges the importance of detecting syphilitic involvement of the nervous system before it is severe enough to induce appreciable manifestations. Treatment in this "preclinical" stage has the greatest chances for proving effective, while otherwise the disease is liable to run an insidious and progressive course. Ravaut was the first to call attention to the diagnostic importance of a meningeal reaction in the very earliest stages of syphilis, a reaction too slight to be detected in any way except by examination of the spinal fluid. The cell-count, the albumin content and the Wassermann reaction in the cerebrospinal fluid throw light on what is going on in the nervous system under the influence of the syphilis. The fluid is drawn by lumbar puncture and centrifuged. The fluid is decanted and the sediment is spread on slides of a counting chamber. Half the fluid is put in one tube, which is examined for the albumin content by the flaking on boiling; the other half is used for the Wassermann test. When the fluid shows signs of a meningeal reaction in a case with suspicion of syphilis, he makes intraspinal injections of neosalvarsan, and reports nine cases in which this treatment has been applied to patients in the second or third phase of syphilis with signs of pronounced nervous involvement. He has made sixty-three injections of this kind. The first patient had syphilitic meningitis and great improvement was evident by the fourth intraspinal injection. The young woman is apparently cured at present, three months after the first of the nine injections, a total of 0.07 gm. neosalvarsan. She was given ten intravenous injections besides during the pause after the first six intraspinal injections in the first month. Two tabetic patients were also much improved by the treatment. Another patient had transverse myelitis and paraplegia but improved under the intraspinal injections; the dose was then increased and then the paraplegia reappeared. Ravaut leaves the question open as to whether this return of paraplegia was a relapse or the result of the toxic action of the drug. The other patients have advanced general paralysis and are still under treatment, except one who has been apparently cured for five months to date. Ravaut warns that with this drug the toxic action may not make itself felt for several weeks after its administration, and the toxic action is liable to be more severe the more seriously the nervous system is already affected.

### Archives Générales de Chirurgie, Paris

*December, VII, No. 12, pp. 1509-1536*

37 Present Status of Intrathoracic Surgery. N. Lapeyre.
38 Fungus Surgical Processes on the Limbs. (Les nouvelles mycoses chirurgicales des membres.) J. Leclercq.
39 *Limping as Symptom of Appendicitis. (La claudication appendiculaire.) D. G. Zesas.
40 Tuberculosis of the Tarsus. (Tarsectomie totale pour tuberculose.) P. Mauclaire.

39. **Limping as Symptom of Appendicitis.**—Zesas says that if the pain with acute appendicitis is not always localized at McBurney's point this is still less likely to be the case with chronic appendicitis. One of the most common distant localizations of the reflex appendicular pain is in the right hip joint. The patient has none of the ordinary symptoms of appendicitis and complains only of pain in the trochanter and femoral region and especially in the right hip-joint. The pain is generally intermittent, increases during walking or after a sudden movement of the joint, and spreads toward the knee or buttocks. He reports an instructive case of the kind: A girl of 16 had complained for several months of pain in the right groin and she finally began to limp. The hip-joint was not tender and bending or extending the joint did not cause pain. After a period of indecision, a sudden attack of appendicitis compelled removal of the appendix, which put an end at once to all hip-joint trouble and there has been no pain or limping since. The appendix was found lightly adherent and thickened. He cites three similar cases in detail, recently reported by Rochard and Stern and mentions Ménard's history of a child of 12 who had been limping for several weeks and had been sent to Berck with the diagnosis of hip-joint disease. Three months after her arrival she had an acute attack of appendicitis and after the appendicectomy there was no further hip trouble. The evidence seems to be in favor of a purely reflex pain rather than neuritis in these cases. They teach the necessity for careful exploration of the iliac fossa in all cases of supposed hip-joint trouble. If the cecum is found thickened and distended and if the region is tender on pressure, the proper treatment suggests itself at once.

### Archives des Maladies du Cœur, etc., Paris

*January, VII, No. 1, pp. 1-80*

41 Effect on Heart Action of Atropin and Pressure on Eyeball. (Automatisme ventriculaire intermittent, spontané ou provoqué par la compression oculaire et l'injection d'atropine dans les bradycardies totales.) L. Gallavardin, P. Dufort and Petzetakis.
42 Case of Primary Subacute Myocarditis. G. Roque and L. Lévy.

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43 Diagnosis of Effusion in the Pericardium. C. Doljan.
44 Cerebral Hemorrhage in Chronic Myeloid Leukemia. C. Laubry.

### Bulletin de l'Académie de Médecine, Paris

*January 13, LXXVIII, No. 2, pp. 45-55*

45 Dysentery with Spirilla and Amebas in the Intestines. (Deux cas de dysenterie amoebo-spirillaire.) P. Teissier.
46 *Vegetable Diet for Diabetics. (La cure de légumes secs chez les diabetiques.) M. Labbé.

**46. Vegetables in Diabetic Diet.**—Labbé states that diabetics sometimes are unable to digest oatmeal; even at the best, it is a food poor in albumin and nitrogen. He has found that diabetic patients thrive much better on a three-day course of a dry vegetable diet. They digest it readily; it is eaten with greater appetite, and does not have a constipating effect like milk, or induce diarrhea like the oatmeal. The ration is 300 gm. of legumes with 150 gm. of butter, three to six eggs, and three to six rolls made from antidiabetic flour. He permits three or four glasses of Bordeaux wine and some green vegetables, but no meat. Besides peas, beans and lentils, the soy bean might be utilized, although this is difficult to cook. Some of the patients follow this diet for a week at a time or longer. The benefit is particularly marked in severe forms of diabetes, both the glycosuria, the acidosis and the nitrogen balance all showing improvement. In some cases the sugar disappeared entirely from the urine on this diet, when it had persisted practically unmodified on all other diets. He found in one case that only 30 gm. of sodium bicarbonate were required to neutralize the urine on this vegetable diet, while this could not be accomplished with even 40 gm. on other diets. Acetonuria is least, he says, on this dry vegetable diet, and the proportion of non-dialyzable colloidal nitrogen in the urine is reduced to the minimum. On the other hand, the elimination of amino acids and of ammonia seems to be augmented. He reiterates in conclusion that this dry vegetable diet is indispensable when coma is impending, and actually prolongs life.

### Journal de Médecine de Bordeaux

*January 25, LXXXV, No. 4, pp. 51-74*

47 Abdominal Influenza in Boy of 13 with Temperature of 105.8 F. (Grippe hyperthermique.) J. Vergely.
48 Restriction of Fluids in Treatment of Gastro-Enteritis in Infants. (Le régime sec comme traitement des gastro-entérites infantiles.) J. Andérodias.

### Lyon Chirurgical, Lyons

*January, XI, No. 1, pp. 1-112*

49 *Tuberculosis as a Cause of Cystic Neoplasms. (Du rôle de la tuberculose dans la production des néoformations kystiques.) A. Poncet and R. Leriche.
50 *Variations in the Epinephrin Content of the Adrenals after Anesthesia. C. Oliva.
51 The Value of Surgical Treatment in Bright's Disease. J. Murard.
52 Peridental Cysts Caused by Tuberculosis. (Kystes paradentaires et tuberculose.) G. Massia and A. Therre.

**49. Tuberculosis as a Cause of Cysts.**—Poncet and Leriche believe that tuberculosis is the chief cause of benign cystic new growths. They call attention to the frequency with which latent tuberculosis is found in patients who have goiter, and cite the work of several authors who have shown by histologic examination that apparently simple goiters are often tuberculous. They believe that adenomatous proliferation is one of the ways in which the thyroid reacts to tuberculosis. Cysts of the ovary showing no specific tubercular lesions are frequently found in connection with tuberculosis of the tubes. A number of cases are cited. They conclude that these are due to inflammatory tuberculosis of the ovary which reacts to the tuberculous process by the formation of cysts.

**50. Epinephrin Content of the Adrenals after Different Anesthetics.**—Oliva carried out a series of experiments on dogs to determine the effect of ether and chloroform anesthesia on the epinephrin content of the adrenals. He found that the decrease after chloroform was much greater than after ether, and that it persisted for a long time, while after ether the adrenals became normal again in ten to twelve hours. When morphin was given before the chloroform, it seemed to delay the bad effect on the adrenals, but only so long as the influence of the morphin persisted. After that the epinephrin content was persistently lowered, just as in the cases where morphin was not given. Morphin given before ether did not seem to make any special difference in the effect of the anesthetic. Chloroform, therefore, is much more toxic than ether as it inhibits the tonic effect of the epinephrin on the sympathetic nervous system. Delbet believes that a large part of the serious results following chloroform anesthetization can be prevented by giveng epinephrin in conjunction with it.

### Presse Médicale, Paris

*December 20, XXI, No. 103, pp. 1037-1048*

53 The Modern Diagnosis of Cancer of the Stomach. R. Savignac.

### Revue de Chirurgie, Paris

*January, XXXIV, No. 1, pp. 1-104*

54 *Shock. (La théorie cinétique du shock et l'opération sans shock. Association anocive.) G. W. Crile.
55 Access to the Elbow from the Front. (Les voies d'accès antérieures à l'articulation du coude.) H. Billet.
56 Relics in Adults of Congenital Diverticulum in Omentum. (Le diverticule épiploïque droit chez le nouveau-né.) J. Leveuf.
57 *Regeneration of Tissues in Implanted Rubber Sponge. (Nuova carne.) D. Fleschi.
58 *Coccygodynia. (Etude critique sur la coccygodynie.) Hamant and R. Pigache.

**54. The Shockless Operation.**—Crile's work in this line is familiar to readers of recent volumes of THE JOURNAL.

**57. Regeneration of Tissues in Implanted Rubber Sponge.**—Fieschi calls the results of his method "new flesh," and states that since his experimental work commencing in 1911 he has been applying it in the clinic for the last year or two and in every instance with complete success. His attention was called again and again to the difference in the reaction on the part of the tissues to a piece of gauze left in the tissues and to a piece of rubber drain; there seems to be a kind of chemical affinity between the tissues and rubber. Strips of rubber sponge tissue buried in the depths of the peritoneum of dogs and rabbits or implanted in the depths between muscles, healed in place without the least inflammatory reaction, even when a chunk of rubber tissue several cubic centimeters in size had been introduced into the peritoneum. There was sometimes a slight swelling of the region first, but this soon subsided without leaving a trace, and when the animals were killed six months later, the engrafted rubber sponge was found grown all through with apparently normal tissue. It had penetrated into and filled all the cavities and crevices, as can be seen in the colored plates showing the new flesh thus formed in one dog and one rabbit.

He has not had much opportunity for applying the method in practice, but the complete success realized in two cases of femoral hernia justifies, he thinks, wide adoption of the technic. The femoral canal is rather difficult to manage when there is a tendency to hernia; eloquent testimony to this difficulty is afforded by the multiplicity of procedures advocated for treatment of femoral hernia. He found records of fifty different methods even in the modest medical literature accessible to him at Bologna; he lists them all and comments on the unfavorable conditions in the region which render the tissues so poorly adapted to be drawn down or up or stretched to close the canal. By inducing the production of an entirely new tissue at the spot, new flesh, forming in the interstices of a chunk of rubber sponge tissue, first sterilized in physiologic salt solution and then fitted to plug the canal, the operation took very little time; the wound healed as simply and promptly as after any herniotomy, and the results have been perfect to date, over a year, in the two working people whose cases are reported and illustrated. There can be no doubt, he thinks, that the rubber sponge has become transformed into a living flesh plug, closing the orifice for good.

**58. Coccygodynia.**—This term should be reserved exclusively for pain, induced or spontaneous, localized exclusively in the coccyx. The pain is due to dislocation of the coccyx from some trauma, either internal, during delivery, or external, some shock or fall on the coccyx region. The writers insist that treatment generally must be surgical; medical measures are only briefly palliative. Resection of the coccyx puts an end

to all the trouble and entails no functional disturbance. In one of the two previously unpublished cases reported, the woman had been kicked in the coccyx region and the pain at once had been extremely severe and it continued to increase. The dislocated coccyx was palpated through the rectum, but under hot applications, kept up for two weeks, the coccyx returned to place; no protrusion could be palpated and all trouble was at an end. The other patient was a cavalry officer who years ago fell on the coccyx region and it became so painful that he is in constant pain except when reclining on his side. He gets up for dinner but keeps reclining all the rest of the time, and when he has to go out of doors to attend to official matters, he takes an injection of morphin. Various courses of medical measures have given no relief, but he has constantly refused to permit the simple operation which, if done in time, would most certainly have freed him from all trouble from his coccyx. A number of cases are on record in which fracture or dislocation was found at the operation for coccygodynia, so that the surgical nature of the persisting trouble has been established beyond all doubt.

## Archiv für Kinderheilkunde, Stuttgart

*LXII, Nos. 3-4, pp. 161-320*

59 *Case of Atrophy of Optic Nerve After Pertussis: Seventh on Record. (Opticusatrophie nach Keuchhusten.) E. Roedelius.
60 *Advantages of Malted Gruel for Sick Infants. (Behandlung von Magendarmkatarrh und Atrophie bei Säuglingen mit Malzsuppe.) I. Rosenthal and H. P. T. Oerum.
61 Anapaylaxis and Anti-Anaphylaxis in Young Tuberculous Children and Relation to Tuberculin Treatment. G. Di Cristina and G. Caronia.
62 Tuberculosis Among the Schoolchildren at Odessa, Russia. (Zur Frage über Tuberculose in der Schule.) J. M. Arluck.

59. **Atrophy of the Optic Nerve after Whooping-Cough.**—The child in question died a few weeks after the whooping-cough from intercurrent diphtheria, after it had become totally blind. Necropsy showed an abnormal space between the optic nerve and its sheath, but the cerebrospinal fluid was limpid and not under high pressure at the time the child was examined, after the onset of the diphtheria. All other causes except the strain of the pertussis and its toxic action could apparently be excluded. Roedelius knows of only six similar cases on record and one of the other children recovered spontaneously and another after lumbar puncture. One person in the group was a woman of 40 who developed bilateral papillitis in connection with protracted whooping-cough with retinal hemorrhage, but the condition improved later.

60. **Malted Gruel for Sick Infants.**—Since 1906, 242 infants have been fed systematically for more than eight days on malted gruel at the Copenhagen general hospital, and the impression has been decidedly favorable to this form of infant feeding. The children put on this food all had severe gastrointestinal catarrhal affections or were in a state of atrophy. Eight of the children had no appetite and sixteen others did not thrive on the gruel. If the child can be kept alive past the first week, a favorable outcome may be counted on. Nearly all the very sick children recuperated wonderfully, it is stated, on the malted gruel. It is of course only for transient use, to bridge the child over to ordinary food, and it never was given for more than two months. It is very simply and easily prepared and inexpensive.

## Berliner klinische Wochenschrift

*January 19, LI, No. 3, pp. 97-144*

63 *Vaccine Therapy with Sensitized Virus. A. Besredka.
64 *Cure of Tuberculous Peritonitis by Injection of Nitrogen into Peritoneal Cavity. G. Brückner.
65 *Temporary Resection of the Palate. (Gaumenresektion.) C. Partsch.
66 *Congenital Dislocation of the Hip Joint. (Erfahrungen und Erfolge bei der blutigen Reposition der angeborenen Hüftluxation mit dem medialen vorderen Schnitt.) K. Ludloff.
67 Sarcoma After Exposure to Ultraviolet Rays. (Sarkomentwicklung nach Quarzlampenbehandlung.) H. Simon.
68 *Magnesium Sulphate in Treatment of Tetanus. H. Stadler. Commenced in No. 2.
69 *Athletics and Accidents. (Sport und Unfall.) H. Bartsch.

63. **Sensitized Virus in Vaccine Therapy.**—Besredka's method and results were reviewed editorially in THE JOURNAL, Nov. 15, 1913, p. 1814.

64. **Injection of Nitrogen into Peritoneal Cavity in Treatment of Tuberculous Peritonitis.**—Brückner says that the principle of the method of artificial pneumothorax in treatment of pulmonary tuberculous processes has not been applied as much as it deserves in treatment of adhesive pericarditis, where it might work wonders in preventing the adhesion of the sheets of the pericardium. It also checks effusion into any cavity, and seems to have a specific action on tuberculous processes. These features of the method commend it also for treatment of tuberculous peritonitis. Air or oxygen have been injected for this purpose by a number of clinicians, Nolen having published this as a new method of treating peritonitis as long ago as 1893. Brückner thinks that nitrogen is better adapted for the purpose, and reports the case of a young man with ten healthy brothers and sisters, who developed in 1912 tuberculous peritonitis with recurring ascites, and no benefit from laparotomy twice repeated, Roentgen exposures or inunctions. Then, after tapping anew, withdrawing 2.5 liters of ascitic fluid, 500 c.c. of nitrogen was injected into the peritoneal cavity with the ordinary artificial-pneumothorax technic. Nine days later 600 c.c. was injected without withdrawing the effusion present. A third and fourth injection followed, of 800 and 600 c.c. of nitrogen, all in the course of two months, during which time the patient rapidly improved and the abdomen seemed to be free from ascites. He then spent some time in the country and now, eight months after commencing the injections of nitrogen, he seems perfectly well and strong. The abdomen is soft and apparently normal except that in the right side traces of the thickening of the omentum can still be palpated. No ascites can be detected even in the knee-elbow position, so that there has evidently been a complete and permanent cure.

65. **Temporary Resection of the Palate.**—Partsch reports the entirely satisfactory outcome in three cases in which he obtained access years ago to the nasopharynx by temporary resection of the palate. One case dates from 1897. Intubation aids in the operation, and this technic permits much more ample access and oversight than other methods, as he describes in detail.

66. **Correction of Congenital Hip-Joint Dislocation.**—Ludloff describes the technic which he has found most effectual for this purpose. He operates through an anterior 15 cm. incision along the middle of the joint, the limb abducted at a right angle, and has thus operated on eighteen joints in fourteen children; all are completely cured except those who have been operated on too recently for a decisive outcome, as yet. With this anterior incision the head can be reduced and held in place more readily, hollowing out the acetabulum and cutting the joint capsule around its base. Another advantage is that there is no danger of a stiff joint or of recurrence of the dislocation if the gap in the capsule is closed with a piece of fascia. His experience also demonstrates that by carefully preparing the child, danger of local infection can be certainly warded off. He describes his technic minutely, dwelling particularly on the importance of considering conditions in respect to the psoas muscle, the capsule, the acetabulum and the head and neck of the femur.

68. **Magnesium Sulphate in Treatment of Tetanus.**—Stadler tabulates statistics in regard to tetanus treated by various methods. The mortality before introduction of tetanus antitoxin ranged from 62.2 to 84.6 per cent., in three compilations totaling 427 cases. With serotherapy the mortality in 484 cases was from 42 to 69.6 per cent., but classifying these cases according to the length of the period of incubation and mode of injection of the antitoxin, the mortality dropped to 57 per cent. in 7 cases with an incubation of less than ten days, and to 0 per cent. in 3 cases with an incubation of over ten days. The 51 cases in which magnesium sulphate has been given by intraspinal injection are tabulated in detail, as also the 7 cases in which the magnesium sulphate was injected subcutaneously, and also 101 cases in which Baccelli's method of intravenous injection of phenol was applied, with a mortality of only 17.8 per cent. There was no mortality among the 7 patients treated by subcutaneous injection of

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magnesium sulphate, and of only 33 per cent. among the 37 cases in which the magnesium sulphate was injected by lumbar puncture. An especially favorable feature of the magnesium sulphate treatment, he says, is the prompt relief of pain. All his tables show that the mortality of tetanus has been constantly improving since the introduction of tetanus antitoxin, and this should be given, he insists, whatever other method is applied.

69. **Sports and Accidents Connected Therewith.**—Bartsch thinks that the time has come for compiling general statistics in regard to the accidents and injuries connected with the various sports, and suggests a collective inquiry on the subject.

### Deutsche medizinische Wochenschrift, Berlin

*January 15, XL, No. 3, pp. 105-160*

70 Treatment of Acute Mania. (Behandlung der akut bedrohlichen Geistesstörkrankungen. VIII.) Gröber.
71 Relations Between Hypophysis Functioning and Diabetes Insipidus. C. Römer.
72 Necrosis and Sequester Formation in Bone. G. Axhausen.
73 *Importance of Certain Forms of Mixed Infection. (Bedeutung der fusospirillären Symbiose bei anderen Erkrankungen.) H. C. Plaut.
74 Gastric Ulcer Involving Pancreas. (Zur Radiologie des pankreaspenetrierenden Magenulcus ohne pylorospastischen 6-Stunden-Rest.) R. Bacher.
75 *The Hemorenal Index of Kidney Functioning. R. Bromberg.
76 Formation of New Vagina from Sigmoid Loop. E. Ruge.
77 Total Inversion or Prolapse of Puerperal Uterus. J. Allmann.
78 *Treatment of Deafness and Tinnitus. J. Hegener.
79 Diagnosis of Tuberculous Bronchial Lymph-Nodes. Warnecke.
80 Interference of Hexamethylenamin with Tests for Albuminuria. (Vortäuschung von Eiweiss nach Hexamethylentetramin.) E. Schmiz.

73. **Mixed Infection with Spirilla and Fusiform Bacilli.**—Plaut thinks that the symbiosis of these microbes with others is an extremely important factor not only in affections of the mouth and throat but in those of the skin and lungs and in surgical processes. This mixed infection with syphilis is an extremely frequent occurrence, and it is often difficult to decide whether a throat affection is due to syphilis or to this symbiosis or both. The above symbiosis may prove a complication of diphtheria, in which case it aggravates materially the prognosis. It sometimes accompanies pyorrhea, and the latter may prove amenable to treatment after the spirilla and fusiform bacilli have been eradicated. For this he recommends salvarsan internally and in local application (0.1 gm. salvarsan in 1 gm. glycerin). Many cases in his experience in which the loosened teeth grew firm again after this treatment, justify its general adoption. Lupus ulcerations with this complicating mixed infection and cutaneous processes have always been favorably influenced also by this treatment. Particularly malodorous bedsores are generally of this character, and are amenable to the above treatment.

The same applies to fetid gangrene of the lungs, cancer of the lungs, chronic bronchitis, with or without fetid sputum, and bronchiectasia. Plaut has again and again discovered the spirillum and fusiform bacillus combination in such cases, but he has only recently begun to treat them with salvarsan. The results to date are encouraging. The only drawback with this treatment is that the public believe it is good only for syphilis, and object to its being administered for other affections. It is hard to convince even the general practitioner, he remarks, that salvarsan has a destructive action on other spirilla besides the pale spirochete. Plaut reiterates that salvarsan in small doses is no more heroic than numbers of other drugs, while the prompt eradication of the spirillum-fusiform symbiosis may prove an actual life-saving measure in some cases. It is important, of course, to individualize, but it is certainly indicated when the patient's pains, etc., are undermining his vitality.

75. **The Hemorenal Index.**—This is the ratio between the inorganic salts in the blood and urine. Bromberg lauds it as the simplest means for estimating kidney functioning. (See THE JOURNAL, 1912, lviii, 2003.)

78. **The Latest Methods of Treating Deafness and Tinnitus.**—Hegener reviews the various methods and appliances that have been proposed of late years, saying that none of them is an improvement over the old and tried methods. Diathermia and radium treatment are such dangerous measures that they should be applied only by experts, and not to the ear until they have been tried out on less important organs first. He insists that before such measures are commended for general adoption they should be given a more thorough and extended trials. Ways and means should be devised to prevent such hasty announcements in the lay papers of these incomplete scientific things, heralding them as assured salvation. This is occurring more and more every day, and it should be stopped. There can be no question that the sick are misled, disappointed, and actually harmed by such announcements made before things are ready to be announced, and the reputation of the profession suffers proportionately.

### Medizinische Klinik, Berlin

*January 18, X, No. 3, pp. 91-136*

81 Mental Deficiency and Criminality in the Young; 371 Cases. (Geistesstörung und Kriminalität im Kindesalter.) J. Raecke.
82 Tracheotomy. (Luftröhrenschnitt.) F. Baggerd.
83 Sunburn. (Sonnenbrand.) G. Scherber.
84 *Operative Treatment of Lockjaw of Traumatic and Inflammatory Origin. (Kieferklemme.) R. Ahrens.
85 Cyst at Vesical Mouth of Ureter. W. Kotzenberg.
86 Otogenous Abscess in Temporal Lobe. R. Leidler. Commenced in No. 1.
87 Dosage of Roentgen Rays. K. Stern.
88 Bergonié's Electric Treatment of Obesity. (Zur Therapie der Fettsucht.) O. Simmonds.
89 Experimental Asthma. E. Weber.

84. **Treatment of Lockjaw.**—Ahrens refers in particular to the inability to open the mouth resulting from cicatricial traumatic or inflammatory changes, and describes a case in which two operations were necessary to overcome the trouble. A shriveling process two years after the first operation had again immobilized the jaws. His experience in this and similar cases teaches that the best and most durable technic for the purpose is to cut through the ascending ramus of the lower jaw and interpose a flap of fascia tissue to prevent the parts growing together again.

### Münchener medizinische Wochenschrift

*January 20, LXI, No. 3, pp. 113-168*

90 Radiotherapy in Gynecology. M. Henkel.
91 Radiotherapy in Cancer. (Primäre Ergebnisse der kombinierten Karzinombehandlung mit Mesothorium, Röntgenstrahlen und intravenösen Injektionen.) G. Klein.
92 Connective-Tissue Grafts. (Das kutane und subkutane Bindegewebe als plastisches Material.) E. Rehn.
93 *Etiology of Epidemic Poliomyelitis. (Heine-Medinsche Krankheit.) F. Lust and F. Rosenberg.
94 Serodiagnosis in Psychiatry. A. Fauser.
95 *Cure of Superficial Cancer with Salicylic Acid. Weinbrenner.
96 Durability of Solutions of Scopolamin. Beck.
97 Simplified Technic for Formaldehyd Sterilization. (Ueber die Tiefenwirkung von Formaldehyddämpfen in Dampfdesinfektionsapparaten mit und ohne Einwirkung verminderten Luftdruckes.) O. Mayer.
98 *Early Diagnosis of Measles. (Zur Frühdiagnose der Masern.) M. Grumann.
99 Technic for Radiotherapy. (Aeussere Kathodenstrahlen als Ersatz für Radium und Mesothorium.) H. Strebel.
100 Physical and Biologic Bases for Action of Radio-Active Substances. C. Müller.
101 Roentgen-Ray and Operation Findings with Pylorus Cancer. H. Reichel. Commenced in No. 2.

93. **Epidemic Poliomyelitis.**—Lust and Rosenberg state that they encountered between March and December, 1913, seventy-one cases of this disease at the dispensary at Heidelberg. This is the first time the disease has been epidemic in this region. Only four of the total patients were over 4 years of age. The cases were scattered over a wide region, thirty-two coming from different places where only one case had been observed; nine where there had been two cases; one place with four cases, and one with three. Investigation in regard to a preceding illness with tendency to paralysis, on the part of domestic animals and poultry revealed conditions of the kind in fourteen instances, mostly poultry, but also in two hares and one squirrel; in four fowls the paralysis was unmistakable, but it developed only on one side. Two of these fowls on separate farms had developed the paralysis three or four weeks before a child on the farm developed poliomyelitis. The two other hens came from districts where poliomyelitis occurred later. One of the hens was so com-

pletely paralyzed that it could move only by working itself forward on its belly. Histologic examination of this fowl showed a combination of neuritic, meningitic and encephalitic processes, but the spinal cord was apparently intact; the findings thus differed from those hitherto recorded in epidemic poliomyelitis in man, but the difference in species may well explain the pathologic-anatomic differences. Attempts to inoculate other fowls with tissues from these gave constantly negative results, as also attempts to inoculate them with human poliomyelitis tissue.

95. **Treatment of Superficial Cancer with Salicylic Acid.**—Weinbrenner has been applying salicylic acid systematically in nine cases of epithelial proliferation and states that all the patients are now entirely cured to all appearances. From two and a half to three months with the smaller growths up to eight months in the largest was the extent of the course of treatment. The crystals unite with the growth tissues to form a gray tenacious eschar which could be easily detached after two or three days, or, better yet, left to drop off spontaneously. The salicylic acid seems to destroy all the tissues that are pathologically inclined, down to sound tissue, only the vessels and cartilage displaying more resistance. The first application smarts for a few minutes, up to ten or fifteen with an extensive surface. Then the pains subside, but after eight or ten hours they return and may persist for twelve or twenty-four hours. The pain is less at the point of application than radiating, but the pains gradually grow less severe and shorter. He blows the pulverized salicylic acid into the depths of the growth, adding crystals of the acid to fill all the crevices, applying a strip of gauze to drain, and then covering with a dressing patted to fit tight on the lesion. Some of the illustrations taken before and after this treatment confirm the apparently complete cure.

98. **Early Diagnosis of Measles.**—It has not been Grumann's experience that Koplik's spots invariably accompany or precede measles, but he has always found in cases which proved to be measles later peculiar whitish efflorescences on the tonsils, punctate or linear, about 3 mm. long. He thinks these findings on the tonsils will be found a reliable sign and the earliest one of oncoming measles. It seems to be of the same nature as the Koplik spots, but the tendency is apparent first and sometimes exclusively on the tonsils.

## Wiener klinische Wochenschrift, Vienna

*January 8, XXVII, No. 2, pp. 21-40*

102 *Acid Production and Nervous Over-Excitability. (Säure und Nervenerregbarkeit.) H. Elias.
103 Conservative Operation for Intermittent Hydronephrosis. Kroiss.
104 From the Balkan Wars. v. Massari and G. Kronenfels.
105 Celluloid Plate Worn in the Skull for Twenty Years. (Schädelheteroplastik mit Zelluloid.) L. Ruppert.
106 Effectual Action on Heart of Strophanthus Tincture by Inhalation. J. Moczulski.

102. **Acidosis and Overexcitability of the Nervous System.**—Elias discusses only the nutritional disturbances in infants accompanied by phenomena suggesting spasmophilia or tetany, and tetany in adults with pregnancy acidosis or starvation acidosis from obstruction of the pylorus. In these conditions, as also in a number of others which he enumerates, there seems to be an unmistakable connection between the acid intoxication and the excessive irritability of the nervous system. Experiments now under way on dogs establish apparently beyond question this connection between oversaturation of the organism with acid and the development of symptoms and reactions showing abnormal excitability in the nervous system.

## Zeitschrift für klinische Medizin, Berlin

*LXXIX, Nos. 3-4, pp. 177-369. Last indexed Feb. 14, p. 582*

107 *Differential Uric Acid Output in Chronic Arthritis. (Harnsäureausscheidung bei den chronischen nicht gichtischen Polyarthritiden.) M. Ljungdahl.
108 *Epinephrin Glycosuria in Man. A. Landau.
109 Action of Starch-Digesting Enzymes on Carbohydrates, etc. (Wirkung amylolytischer Fermente auf Nähr- und Nahrungsmittel.) H. Wolff and B. Rosumoff.
110 *Medicinal Treatment of High Blood-Pressure. K. Rutkewitsch.
111 Parallel Elimination of Uric Acid and Indican. (Das gleichmässige Ausscheiden der Harnsäure und des Indikans.) W. v. Moraczewski.
112 The Metabolism in Epilepsy. S. Kozlowski.
113 *Pernicious Anemia. O. Roth.
114 *Determination of Sugar Content of the Blood. (Zur Zuckerbestimmung im Blute.) G. Dorner.
115 *Hypertrophy of the Kidneys after Digitalis. E. Reinike.
116 *Influence of Calcium Chlorid on Diuresis with Chronic Nephritis. (Einfluss des Chlorkalziums auf die Diurese bei chronischer Nierenentzündung, nebst einem Beitrag über den Wasserstoffwechsel.) W. Arnoldi and G. Brückner.
117 *Latent and Masked Disease of Kidney Pelvis. (Nierenbeckenerkrankungen.) T. Hausmann.

107. **Type of Elimination of Uric Acid Not Characteristic.**—Ljungdahl reports the discouraging outcome of extensive research in twelve cases of chronic arthritis and a number of controls, all showing that it is impossible to determine solely from the type of elimination of uric acid whether the joint trouble is of a gouty nature or not.

108. **Epinephrin Glycosuria.**—Landau tabulates the findings in nine persons tested repeatedly by injection of epinephrin after ingestion of 150 gm. sugar. Glycosuria followed as a rule, but not when levulose instead of grape sugar had been taken. The sugar-producing and the diuretic action of epinephrin seem to be independent of each other. Small doses of cocain enhance the action of the epinephrin while pantopon checks it.

110. **Medicinal Treatment of Arteriosclerosis.**—Rutkewitsch gives the findings day by day over months in three typical cases and summarizes others, in all of which various drugs in vogue for the treatment of arteriosclerosis had been given a thorough trial. The results were disappointing. The reliance in arteriosclerosis must be on diet and physiotherapy, but, he adds, the connection between the high blood-pressure and certain glands with an internal secretion may yet point the way to effectual treatment.

113. **Pernicious Anemia.**—Roth relates a case of pernicious anemia in two adult brothers, a case of pernicious anemia accompanying cirrhosis of the liver, another in which the pernicious anemia accompanied tuberculosis in a woman of 48, and two cases in which pernicious anemia developed after 70. The list is closed with a case of pernicious anemia in a woman of 27 approaching term with her second pregnancy. After delivery she rapidly recuperated.

114. **Determination of Proportion of Sugar in the Blood.**—Dorner describes a modification of Pavy's technic which, he says, is extremely simple, requires only from 2 to 4 c.c. of blood and the simplest appliances, and with a sugar content of over 0.1 per cent. the findings are quite accurate. It is based on the reduction of a solution of cupric sulphate, but the cuprous oxid is not allowed to precipitate out but is held in solution by ammonia. The reaction reaches its height when the blue tint fades out entirely. This technic is useful for testing both blood and urine for sugar.

Two reagents are needed: Pavy I: 4.158 gm. purest cupric sulphate with water to 500. Pavy II: Potassium and sodium tartrate, 21 gm.; potassium hydroxid, 21 gm., and concentrated ammonia (specific gravity 0.88) 300 c.c. with water to 500 c.c.

In an Erlmeyer flask of 30 c.c. capacity are placed 1 c.c. of Pavy I and 2 c.c. of Pavy II; a bent tube through the cork carries off the ammonia fumes. The fluid to be tested is placed in a buret with glass cock, mounted on a glass tube projecting also through the cork of the flask and 2 cm. below. The fluid to be tested is turned into the flask at one gush, and the flask is brought to boiling for two or three minutes. One cubic centimeter of Pavy I is equivalent to 1.1 mg. sugar. This is divided by the figure representing the number of cubic centimeters of the blood filtrate used. Multiplying then by 1,000 gives the exact percentage. Example: 1 c.c. Pavy I = 1.1 sugar. About 2.7 of the blood filtrate was used, so the proportion is $\frac{1.1}{2.7} = 0.407$, which multiplied by 1,000 = 0.407 in 100 c.c.

115. **Hypertrophy of the Kidneys after Digitalis.**—Reinike reports experiments on healthy rabbits which demonstrated

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that even in health the continued administration of digitalis led to enlargement not only of the heart but of the kidneys as well, although to a lesser extent, and also of the spleen.

116. **Diuretic Action of Calcium Chlorid in Chronic Nephritis.**—The metabolic findings in nine cases of nephritis are tabulated to show the unmistakable diuretic action of calcium chlorid in small doses in various forms of nephritis, especially those with edema and scanty, albuminous urine. The albuminuria was not affected in three cases, in five it was reduced, in none increased. Moderate intake of fluids, not over 26 c.c. per kilogram of body weight seemed to provide the most favorable conditions for the diuresis.

117. **Latent and Masked Pyelitis.**—Hausmann is convinced that pyelitis is far more common than generally recognized; it is particularly frequent in women. The pyelitis often causes atypical symptoms and is erroneously diagnosed as appendicitis, rheumatism, sciatica, abdominal-wall neuralgia, ulcer, hysteria, neurasthenia or catarrh of the bladder or intestines. The pyelitis may run its course without suppuration, the urine always limpid or with only scanty formed elements and no albumin. With kidney stones, red corpuscles may be the only abnormal finding in the urine; likewise with an albumin-free nephritis. Even a few red corpuscles in the urine should suggest serious trouble back of them (minimal bleeding, occult hemorrhage). A jelly-like sediment speaks for disease in the kidney pelvis, but cultivation of germs from the sediment of the urine is the most instructive measure at our command. Thirty-three cases are reported in detail to emphasize the necessity for suspecting trouble in the kidney pelvis in obscure cases. Pain on jarring the lumbar region and on pressure on the psoas, especially when the pain and tenderness occur on only one side, should attract attention to the kidney pelvis and prevent any egregious mistakes in diagnosis. It is sometimes possible to elicit the succussion pain with true nephritis. He strikes with the ulnar edge of his hand, striking with the base of the little finger of the right hand, directly across the lumbar region. The pain thus induced is what he calls the succussion pain as he strikes lightly, but still with some force. The direction of the stroke is from the outer edge of the back forward, so that the soft parts of the lumbar region are jarred—the latissimus dorsi. Under normal conditions the jarring causes no pain.

### Zentralblatt für Chirurgie, Leipsic

*January 24, XLI, No. 4, pp. 137-184*

118 *Gastro-Duodenostomy for Duodenal Ulcer. H. Brun.
119 Experimental Research on Injection of Silver Salt into Kidney Pelvis. (Pyelographie.) E. Rehn.

118. **Gastroduodenostomy for Duodenal Ulcer.**—Brun gives an illustrated description of the simple technic with which he severs the connection between the stomach and duodenum in the upper wall of the gut, leaving the lower wall intact. The stump of the stomach is then brought down and sutured end-to-side to the duodenum while the sutured end of the stump of the duodenum projects above as a blind pouch containing the entire site of the ulcer. A slanting incision in the side permits the best access and oversight. When the ulceration is small, he does not cut the bowel across, but merely draws up into a peak the portion containing the ulcer, and then sutures the afferent and efferent portions of the loop together to form a solid mass projecting thus as a cap above the unobstructed part of the lumen below.

### Zentralblatt für Gynäkologie, Leipsic

*January 24, XXXVIII, No. 4, pp. 153-192*

120 Ovarian Cyst Expelled from Rectum During Delivery. R. Micnaelis.
121 *Temporary Exclusion of Kidney after Injury of Ureter. (Ausschaltung der Niere.) W. Stoeckel.
122 Danger of Bergonié's Electric Treatment Interrupting a Pregnancy. (Der Bergonié's Entfettungsstuhl als Abortivum.) M. Hirsch.
123 Determination from Without of Diameter of Internal Os During Delivery. (Eine Methode zur Bestimmung der Grösse des Muttermundes intra partum durch äussere Untersuchung.) F. Unterberger.
124 Danger of Tamponing with Placenta Praevia. E. Reinhardt.

121. **Temporary Exclusion of the Kidney.**—Stoeckel denounces as dangerous any attempt to implant the ureter in the intestine as this invariably leads to ascending infection. It is equally impracticable to implant the ureter in the sound mate as the technic is extremely difficult and in case of failure both ureters are then damaged. Attempts to patch out the ureter with a segment from another ureter or artificial tube have never proved successful in clinical cases. When the ureter has been injured in any way, there seems to be no resource therefore except to remove the kidney above. This is a hazardous operation when nothing is known with certainty in respect to the functioning of the other kidney. Consequently it is better to temporize for a while until more can be ascertained about this. His experiments on dogs have shown that it is feasible to cut the ureter and tie a complete knot in it above the ligature. The pressure on the loops of the knot is so great that no urine seeps through, and the stump can be confidently buried without fear of harm for a few days. The ureter above and the kidney become distended, but only gradually, and no permanent injury results within a reasonable period. In his experiments, chromocystoscopy gave normal findings when the knot in the ureter was untied by the fourth day. From this date onward functioning declined so that chromocystoscopy gave totally negative findings by the twenty-first day. With no other technic was the ureter impervious.

### Gazzetta degli Ospedali e delle Cliniche, Milan

*XXXV, Nos. 3-7, pp. 25-72*

125 *Indirect Palpation. (La palpazione mediata.) A. Campani.
126 *Albumin Reaction in the Sputum. P. Petralia.
127 Determination of the Viscosity of Effusions and Exudates. G. Malan.
128 Treatment after Prostatectomy. P. Marogna.
129 Sanitation in New Italian Colony in Africa. F. L. Comite.

125. **Indirect Palpation.**—Campani lays his right hand on the abdomen and palpates the abdominal organs through this hand, that is, the hand lying passively on the surface does the feeling while the other hand applies the force. Information can sometimes be obtained in this way beyond anything otherwise attainable.

126. **Albumin in the Sputum.**—Petralia's experience indicates that albumin is found in the sputum in case of congestion and inflammation in the air passages, most pronounced with the latter, and subsiding as the inflammation retrogresses. In 101 cases he found it then a valuable guide for the prognosis. In the tuberculous bronchitis cases, the proportion of albumin ranged from 2 to 4.5 per thousand, while in the non-tuberculous cases the proportion was far less as a rule, although in a few exceptional cases 4 per thousand was found with nothing otherwise to indicate tuberculosis.

### Policlinico, Rome

*January, XXI, Medical Section No. 1, pp. 1-48*

130 Syphilitic Meningomyelitis with Necropsy. P. Ciuffini.
131 The Wassermann Reaction in Syphilis. L. Philippson.
132 Behavior of the Leukocytes in Pernicious Anemia. P. Sisto. To be continued.

### Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

*II, No. 17, pp. 1443-1518*

133 *Renal Diabetes. C. D. de Langen.
134 The Action of Ferments is a Vital Process. B. C. P. Jansen.

*No. 18, pp. 1519-1598*

135 Operative Treatment of Suppurative Peritonitis. (Chirurgische behandeling van etterige bukvliesontsteking.) S. M. Kropveld.

133. **Renal Diabetes.**—This article discusses that form of diabetes in which the pathogenesis must be sought in the kidney instead of elsewhere. The Holland literature of recent years does not contain anything on this subject, but de Langen reports a case in detail from his own experience. He found the least glycosuria not on a carbohydrate-free diet but on a liberal carbohydrate diet. The day urine gave the highest amount of sugar. Absolute rest and a strict milk diet did not cause change, neither did exercise have any influence. The sugar content was thus independent of the carbohydrate supply. Food had no influence on the proportion of sugar

in the blood; the proportion was subnormal. No symptoms of nephritis were evident. The toleration in regard to the carbohydrate diet has kept up unmodified during the year to date. Klemperer has asserted that renal diabetes can appear in cases of senile arteriosclerosis, and de Langen has encountered a case of this kind. He thinks it now established that certain pathologic conditions in the kidneys may interfere with the elimination of sugar. Abnormal permeability of the kidneys to sugar, etc., is evidenced in phlorizin diabetes and perhaps other toxigenic glycosurias. The existence of a clinical renal diabetes cannot be denied; it differs naturally from diabetes mellitus in cause, course and prognosis.

### Meditsinskoe Obozrienie, Moscow

*LXXX, No. 15, pp. 287-374*

136 Success of Serotherapy in Tetanus; Two Cases. V. N. Vinogradoff and S. I. Kirilltseff.
137 Inoculation of the Eyelids with Vaccinia. (Privivka ospi i zabolievanie glaz.) P. Tchistiakoff.
138 Serodiagnosis by Abderhalden's Methods. B. F. Kabanoff.
139 Diphtheria Bacilli Carriers. (O Nositeliak D. palotchek.) N. I. Uspensky.
140 Osteosarcoma of the Shoulder; Two Cases with Successful Operative Treatment. V. A. Perimoff.
141 Method of Determining the Coagulability of the Blood. P. P. Sitkovsky.

*No. 16, pp. 375-464*

142 Electrocardiography. A. M. Kastanaian.
143 Extra-Uterine Pregnancy. N. Marianchik.
144 The Alquié-Alexander Operation for Retrodisplacement of the Uterus. P. Kuzmin.

*No. 17, pp. 465-552*

145 *Keratin in Treatment of Cirrhosis of the Liver. S. Zypkin.
146 History of Medicine in Russia. III. A. Levintsky.

145. **Keratin in Treatment of Cirrhosis of the Liver.**—Zypkin reports four cases of cirrhosis of the liver (one due to cardiac disturbances, the three others examples of Laennec's cirrhosis), in which he successfully applied keratin in treatment. He begins the treatment with caffein (0.2 gm. three times a day) which is given for three or four weeks, for the purpose of improving the portal circulation. Then keratin is given in addition to the caffein, in the form of 0.5 gm. tablets. Five such tablets are given daily. If diarrhea sets in, 0.5 gm. tablets of salicylate of bismuth are given three to five times a day. The treatment is kept up for months, in one case it was given for thirteen months. The by-effects are nil, the results excellent. Thus the ascites which had to be tapped did not recur, the general condition improved remarkably and the diuresis increased. Zypkin considers keratin a safe antisclerotic remedy.

### St. Petersburger medizinische Zeitschrift

*January 14, XXXIX, No. 1, pp. 1-13*

147 Leprosy. A. v. Bergmann.
148 Tuberculous Intrathoracic Lymph-Nodes. P. Mende.
149 Alienist Testimony in the Courts. (Psychiatrische Gutachten vor Gericht.) C. Siebert.
150 Expulsion of Lining of Esophagus after Drinking Acetic Acid. (Fall von Oesophagitis dissecans.) M. Gesselewitsch.

### Brazil-Medico, Rio de Janeiro

*December 22, XXVII, No. 48, pp. 520-527*

151 Treatment of Gonorrheal Urethral Stricture. (Tratamento dos estreitamentos blennorrhagicos da urethra no homem.) A. Pereira. Commenced in No. 47.

### Semana Medica, Buenos Aires

*December 18, XX, No. 51, pp. 1473-1556*

152 *Pulmonary Influenza. (Congestion pulmonar doble; Bacilo de Pfeiffer y micrococcus catarrhalis.) C. P. Mayer.

*December 25, No. 52, pp. 1557-1620*

153 Vaccine Therapy of Typhoid; Six Cases. (Vacunoterapia o antigenoterapia antitifica.) F. R. Torres.
154 *Emetin in Treatment of Hemoptysis. P. A. Guerrero.
155 Vaccine Therapy for Alcoholism. (La serotherapia antiethica.) V. Delfino.
156 *The Diet Factor in Estimation of Renal Function. (La prueba de los proteicos en la exploracion de las funciones renales.) N. Secrattach.

152. **Pulmonary Influenza.**—Mayer states that the diagnosis in the case described wavered between miliary tuberculosis and pneumonic plague as the intense dyspnea, high fever and cyanosis—with nothing to explain the cyanosis on the part of the heart—were accompanied by signs of severe congestion of both lungs and notable enlargement of the spleen. The patient was a man of 28 and the general condition did not seem much depressed by the two weeks the symptoms had lasted. The bacteriologic blood findings were negative and there was no expectoration, but the influenza bacillus and the *Micrococcus catarrhalis* were found in the saliva. Mayer regards their symbiosis as responsible for the syndrome observed. On suspicion of tuberculosis a course of tuberculin treatment was started, but the syndrome rapidly improved, the lungs cleared up, and no traces of the trouble were left by the end of thirty days from the onset of symptoms. The improvement could not be attributed to the tuberculin treatment as there is no instance on record of its having such a prompt and complete curative influence on a pulmonary process of any character.

154. **Emetin for Hemoptysis.**—Guerrero has found twenty cases on record in which emetin was given to arrest a tendency to hemoptysis, with good effects alleged in all. He has applied it in eight cases, but his experience was not so favorable as those cited. He found that two or three injections were necessary and larger doses. The dose advocated by Flandin and Joltrain is 0.04 gm. but he found that 0.05 or 0.06 gm. was none too much, and thinks that even larger doses than this could be used to advantage. The effect is not immediate, and does not seem to be definite. His patients were all in the second or third stage of tuberculosis as he did not apply the emetin in the first stage, hemoptysis in this phase of the disease generally subsiding spontaneously. He made up to ten injections in some of the cases without absolute control of the tendency to hemorrhage.

156. **Importance of the Diet in Testing Kidney Functioning.**—Serrallach gives figures from several case histories to sustain his assertion that the various tests for kidney functioning give entirely different results after three or four days of an exclusively carbohydrate diet or a protein diet. He makes a point of enforcing a period of one and then of the other, comparing the findings with the different tests during the two periods. The urea content of the blood is particularly instructive under these conditions. The experimental polyuria test and the test for elimination of salt are valuable aids, but he does not ascribe much value to chromocystoscopy, the methylene blue or the phlorizin tests.

### Hospitalstidende, Copenhagen

*January 21, LVII, No. 3, pp. 65-96*

157 *Familial Syphilis with Parenchymatous Keratitis. H. Boas and H. Rønne.
158 Retrograde Incarceration; Two Cases. H. v. Thun.

157. **Familial Syphilis.**—Boas and Rønne here tabulate under various headings the findings in regard to the manifest signs of syphilis, the Wassermann reaction, the apparently healthy members and the deaths or abortions in 33 families in which one or more of the children had parenchymatous keratitis. There were 19 among the parents and 39 among the children with manifest signs of the disease, 11 and 8 with a positive Wassermann as the only manifestation, and 15 among the parents and 27 among the children apparently free from all taint. Analysis of the various families impresses the necessity for examining the brothers and sisters of children with parenchymatous keratitis. Even when the former are apparently entirely healthy, yet they may give a positive Wassermann reaction, showing that they may need treatment. The inheritance in syphilitic families is liable to be more irregular than has hitherto been deemed possible, as after a long series of healthy children others may be born with pronounced indications of the infection.

### Hygiea, Stockholm

*January, LXXVI, No. 1, pp. 1-80*

159 Biology of Skeletal Tissue. (Studier i skelettvävnadernas biologi.) B. Floderus.
160 Albumin Milk in Infant Feeding Under Pathologic Conditions. (Om uppfödning av sjuka, späda barn med s. k. äggvitemjölk.) A. Lichtenstein. Continued.
161 Infantile Scorbutus. W. Wernstedt.

### Ugeskrift for Læger, Copenhagen

*January 22, LXXVI, No. 4, pp. 151-190*

162 Cerebral Polyneuritis Suggesting Menière's Disease; Three Cases. A. Thornval.

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